CB TEST CERTIFICATE

Ref. Certificate No.
KR-2985M1

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Issued by:	Korea Testing Laboratory (KTL)
Registration date:	2005-10-31
Product:	Iris Access

Applicant:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of
Manufacturer:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of
Factory:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of

Rating and principal characteristics:	DC19V, 4.74A
Trade mark (if any):	LG logo and "LG"
Model/Type reference:	ICU4000 and ICU4300
Additional information:	Original issued: 2005-09-15 Certificate KR-2985 is replaced by this version due to addition of an alternative model, AC/DC adaptor and hard disk driver.
Sample of product tested to be in conformity with IEC:	60950-1(ed.1) and/or EN 60950-1:2001 + Group difference and national deviations of Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Poland, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom
Test Report Ref. No:	05-1331-040(M1)

This CB Test Certificate is issued by the National Certification Body:

Korea Testing Laboratory (KTL)
222 - 13 Guro-Dong, Guro-Gu, Seoul 152 - 848, Korea

Signed by: Donggi Kim

Date of issue: 2005-10-31

TEST REPORT

IEC 60950-1 and/or EN 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report reference No	05-1331-040(M1)
Tested by (printed name and signature)	HO-JOON LEE
Approved by (printed name and signature)	YONG-DEUK LEE
Date of issue	October 31, 2005
Testing Laboratory Name	Korea Testing Laboratory
Address	222-13, Guro-Dong, Guro-Gu, Seoul, 152-848, Korea.
Testing location	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above
Applicant's Name	LG Electronics Inc.
Address	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713, Korea
Test specification	
Standard	IEC 60950-1:2001 (1st Edition) and/or EN 60950-1:2001
Test procedure	CB/CCA –scheme
Procedure deviation	Group Difference and Nation Deviations of Austria, Australia, Belgium, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Poland, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom
Non-standard test method	N
Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03

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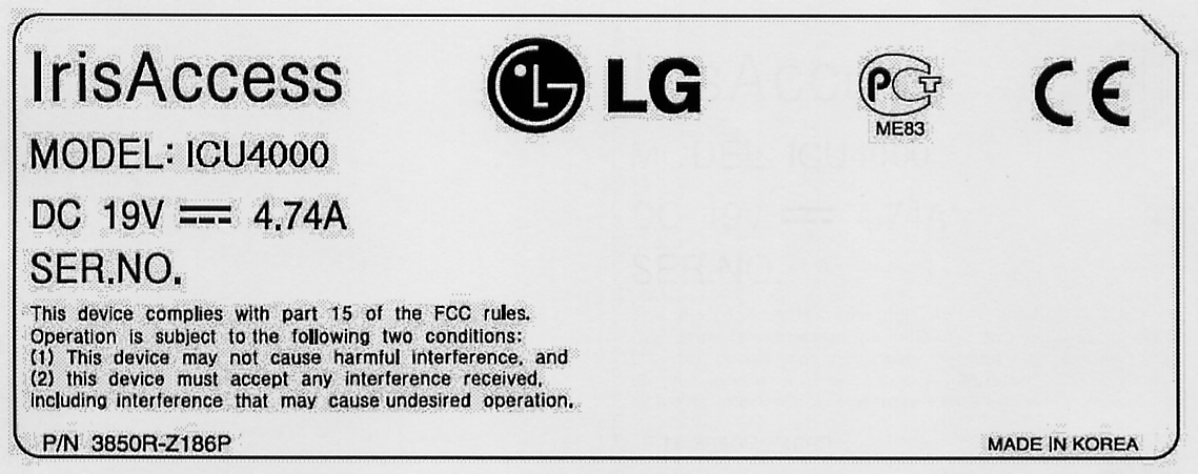
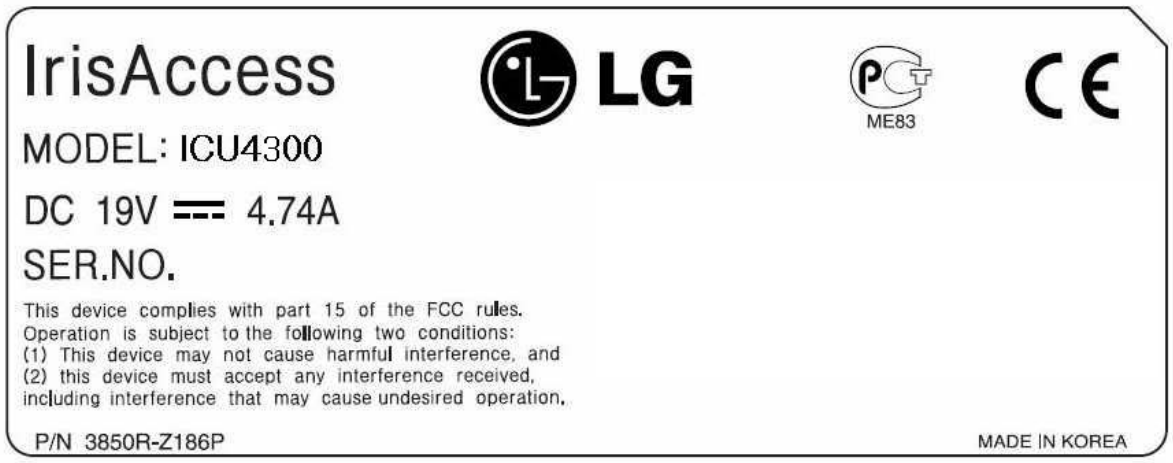
Test item description	Iris Access
Trademark	LG logo and "LG"
Manufacturer	Same as Applicant
Factory	LG Electronics Inc. 19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713, Korea
Model and/or type reference	ICU4000, **ICU4300**
Serial number	Pre-production sample without serial number
Rating(s)	DC19V, 4.74A
Modification on the appliance	Addition of alternative model, AC/DC adaptor and Hard disk driver
Modification to clause	Additional Information (see Page 3 of 3)

Copy of marking plate





♦ **Modification to clause;**

Clause 1.5, 1.6, 1.7, 4.5, 5.3 and TABLE 1.5.1, 1.6.2, 4.5, 5.3.

Particulars: test item vs. test requirements	
Equipment mobility ..... :	Built-In Equipment
Operating condition ..... :	Continuous
Mains supply tolerance (%) ..... :	AC/DC adaptor: -10%, +6%
Tested for IT power systems ..... :	No
IT testing, phase-phase voltage (V) ..... :	No
Class of equipment ..... :	Class III
Mass of equipment (kg) ..... :	5.0 Kg
Protection against ingress of water ..... :	IP X0
Test case verdicts	
Test case does not apply to the test object :	N/A
Test item does meet the requirement ..... :	P(ass)
Test item does not meet the requirement ... :	F(ail)
Testing	
Date of receipt of test item ..... :	October 20, 2005
Date(s) of performance of test ..... :	October 20, 2005 – October 31, 2005

General remarks

"This report is not valid as a CB Test Report unless appended by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02".

The test result presented in this report relate only to the object(s) tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

♦ **Additional Information;**

The Test Report Ref. No. 05-1331-040(M1) (Ref. Certi. No. KR-2985M1) has been modified after the CB Test Certificate was issued, to cover addition of the alternative model, AC/DC adaptor and Hard Disk Driver.

- **Added the alternative model : ICU4300;**

  The alternative model ICU4300 is same as the basic model ICU4000 except for model name.

- **Added the altenative AC/DC adaptor;**

  The alternative AC/DC adaptor(model PA-1900-08) is same as the model PA-1900-08GR except for model name.

- **Added Hard Disk Driver : Fujitsu, MHV2040AT;**

  The hard disk driver is used in equipment instead of flesh memory.

  Compliance is checked by the test of clause 1.5, 1.6, 1.7, 4.5, and 5.3.

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.	P
1.5.3	Thermal controls	No thermal controls.	N
1.5.4	Transformers		N
1.5.5	Interconnecting cables	The interconnecting cable provided between SELV and SELV	P
1.5.6	Capacitors in primary circuits ..... :		N
1.5.7	Double insulation or reinforced insulation bridged by components		N
1.5.7.1	General		N
1.5.7.2	Bridging capacitors		N
1.5.7.3	Bridging resistors		N
1.5.7.4	Accessible parts		N
1.5.8	Components in equipment for IT power systems		N
1.6	Power interface		P
1.6.1	AC power distribution systems	Class III unit intended to be supplied by SELV.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	No hand-held equipment	N
1.6.4	Neutral conductor		N
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V) ..... :	DC19V	P
	Symbol for nature of supply, for d.c. only ..... :	Symbol (60417-1- IEC-5031) is used.	P
	Rated frequency or rated frequency range (Hz) :		N
	Rated current (mA or A) ..... :	4.74A	P
	Manufacturer's name or trademark or identification mark ..... :	LG Electronics Inc.	P
	Type/model or type reference..... :	ICU4000, **ICU4300**	P
	Symbol for Class II equipment only ..... :	Class III equipment	N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
	Other symbols ..... :		N
	Certification marks ..... :	CE	P
1.7.2	Safety instructions	Safety instruction is provided.	P
1.7.3	Short duty cycles	Equipment is intended for continuous operation.	N
1.7.4	Supply voltage adjustment ..... :		N
	Methods and means of adjustment; reference to installation instructions ..... :		N
1.7.5	Power outlets on the equipment ..... :	No outlet.	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :		N
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals ..... :		N
1.7.7.2	Terminal for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		P
1.7.8	Controls and indicators	Switch in iris access: function is obvious by positioning and marking(see cl.1.7.8.3).	P
1.7.8.1	Identification, location and marking ..... :		N
1.7.8.2	Colours ..... :	For functional indication a LED light when the equipment is operating.	N
1.7.8.3	Symbols according to IEC 60417 ..... :	Marking for switch according to IEC60417-1 No.5007 (I)and 5008(○).	P
1.7.8.4	Markings using figures ..... :		N
1.7.9	Isolation of multiple power sources ..... :	Only one connection.	N
1.7.10	IT power distribution systems		N
1.7.11	Thermostats and other regulating devices		N
1.7.12	Language(s) ..... :	Verified in English. Instructions and markings shall be in a language acceptable for the country where the equipment is to be used.	—
1.7.13	Durability	The marking withstands required tests.	P
1.7.14	Removable parts	No marking is placed on removable parts.	N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
1.7.15	Replaceable batteries	Lithium battery not replaceable by user. Warning statement provided in operating and service instructions.	P
	Language(s) ..... :	English	—
1.7.16	Operator access with a tool ..... :		N
1.7.17	Equipment for restricted access locations ..... :		N
4.5	Thermal requirements		P
4.5.1	Temperature rises	(See appended table 4.5.1)	P
4.5.2	Resistance to abnormal heat	(See appended table 4.5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(See appended table 5.3)	P
5.3.2	Motors	(See appended table 5.3 and Annex B)	P
5.3.3	Transformers	(See appended table 5.3 and Annex C)	P
5.3.4	Functional insulation ..... :	Complies with b) and c).	P
5.3.5	Electromechanical components		N
5.3.6	Simulation of faults	(See appended table 5.3)	P
5.3.7	Unattended equipment		N
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire or molten metal occurred and no deformation of enclosure during the tests.	P

IEC 60 950			
Clause	Requirement – Test	Result	Verdict

1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
Switch	Sung Mun Electronics	KRA1101K-WBBF	250V, 5A	-	UL,CSA
Lithium Battery	Hitachi Maxell	CR2032	3Vdc, 210mAh	-	-
CPU Fan	AVC	C4010T12H	12Vdc, 0.1A	-	TUV,UL,CSA,CE
Hard Disk Driver	**Fujitsu**	**MHV2040AT**	**5Vdc, 0.55A**	**-**	**TUV,UL,CSA,CE**
PWB(VIA main board, WIB board, DIB board, Combination_EIF, Basic_EIF_A, Xscale board)	Daeduck GDS	DD4, DD6	V-0, 130°C	UL94	UL
PWB(Indication board, Via PCI, Xscale power board, DC-DC connection board)	Daeduck GDS	D2	V-0, 130°C	UL94	UL
Enclosure	Various	Metal	Min. 1.2mm thick.	-	-
AC/DC adaptor	Lite-On Technology Corporation	PA-1900-08GR	Input:100-240Vac, 50-60Hz,1.5A Output: +19Vdc, 4.74A	IEC60950-1(1st Edition)	NEMKO (CB Certi. No.: NO 30405, CB Report No.: 29318)
AC/DC adaptor (Alternative)	**Lite-On Technology Corporation**	**PA-1900-08**	**Input:100-240Vac, 50-60Hz,1.5A** **Output: +19Vdc, 4.74A**	**IEC60950-1(1st Edition)**	**NEMKO (CB Certi. No.: NO 30405, CB Report No.: 29318)**
[1]) an asterisk indicates a mark which assures the agreed level of surveillance					

IEC 60 950			
Clause	Requirement – Test	Result	Verdict

1.6.2	TABLE: electrical data (in normal conditions)						P
fuse #	Irated (A)	U (V)	P (W)	I (A)	Ifuse (A)	condition/status	
-	-	90	18.32	0.207	0.207	DC In:19.28V, 793mA	Normal operation (at 50Hz)
-	Adaptor:1.5	100	18.26	0.187	0.187	DC In:19.28V, 793mA	
-	Adaptor:1.5	240	20.10	0.106	0.106	DC In:19.28V, 793mA	
-	-	264	18.70	0.118	0.118	DC In:19.28V, 793mA	
-	-	90	18.27	0.207	0.207	DC In:19.28V, 794mA	Normal operation (at 60Hz)
-	Adaptor:1.5	100	18.23	0.187	0.187	DC In:19.28V, 794mA	
-	Adaptor:1.5	240	19.69	0.109	0.109	DC In:19.28V, 794mA	
-	-	264	18.64	0.115	0.115	DC In:19.28V, 794mA	
U(V) : Input Voltage of AC/DC Adaptor							

4.5	TABLE: maximum temperatures					P
	test voltage (V) .....:	90V, 50Hz	90V, 60Hz	264V, 50Hz	264V, 60Hz	—
	t_{amb1} (°C) .....:	-	-			—
	t_{amb2} (°C) .....:	25.1°C	25.1°C	25.0°C	24.9°C	—

maximum temperature T of part/at::	Calculated temperature at Tma (°C)				allowed T_{max} (°C)
Switching Adapter;					
1. Appliance inlet	53.5	53.3	54.1	54.4	85
2. X-Capacitor C001	62.0	61.6	62.8	62.8	-
3. Line Filter L001	64.8	64.6	65.0	65.1	95
4. Line Filter L002	66.0	65.7	67.2	67.5	120
5. PFC Choke L010	69.3	69.0	70.2	70.7	120
6. Electrolytic Capacitor C002	67.5	67.3	70.2	70.5	85
7. Transformer T050 Coil	68.0	67.7	71.0	71.4	105(E)
8. Transformer T050 Core	72.7	72.5	75.5	77.6	105(E)
9. Electrolytic Capacitor C204	66.0	65.8	68.9	69.2	105
10. Heatsink for primary	64.9	64.7	69.7	70.3	-
11. Heatsink for secondary	66.6	66.4	69.4	69.8	-
12. Output Cable	42.7	42.5	42.2	42.2	80
13. Enclosure of Adaptor	55.8	55.5	57.3	57.8	70
Others;					
14. Lithium battery BAT1 on VIA main board	57.4	57.2	56.9	56.9	-
15. U32 Body on VIA main board	58.9	58.8	58.5	58.6	-
16. Heatsink for CLE266 on VIA main board	57.5	57.3	57.0	57.2	-

IEC 60 950			
Clause	Requirement – Test	Result	Verdict

maximum temperature T of part/at::	Calculated temperature at Tma (°C)				allowed T_{max} (°C)
17. CPU FAN on VIA main board	54.0	53.9	53.5	53.6	90 (A)
18. Inductor L32 on VIA main board	54.9	54.7	54.4	54.5	95
19. Inductor L39 on VIA main board	55.2	55.1	54.8	54.9	95
20. Electrolytic Capacitor C52 on VIA main board	43.7	43.5	43.2	43.2	85
21. Inductor L1 on DC-DC Connection upper board	55.7	55.3	55.2	55.2	95
22. Inductor L2 on DC-DC Connection upper board	59.9	59.5	59.3	59.3	95
23. Inductor L4 on DC-DC Connection lower board	67.3	67.1	67.0	66.9	95
24. Inductor L5 on DC-DC Connection lower board	60.5	60.3	60.1	59.9	95
25. Electrolytic Capacitor C5 on DC-DC Connection lower board	58.9	58.6	58.4	58.3	85
26. Switch on DC-DC Connection upper board	53.5	53.2	53.0	53.0	-
27. IC U1 on WIB board	49.2	48.9	48.7	48.6	-
28. Hard Disk Driver	53.5	53.2	52.6	53.0	-
29 Enclosure	47.2	46.9	46.6	46.5	70(metal)
Supplementary information : Tma: 40°C					

5.3	TABLE: fault condition tests		P
	ambient temperature (°C) ..... :	22-27	—
	model/type of power supply ..... :	AC adaptor: PA-1900-08	—
	manufacturer of power supply ..... :	AC adaptor: Lite-On Technology Corporation	—
	rated markings of power supply ..... :	Input:100-240Vac, 50-60Hz, 1.5A	—

component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
CPU Fan	Locked	254	7hr	-	-	T050 in adaptor=66.3℃, L4 on DC-DC Connection lower board=52.8℃, CPU Fan on VIA main board= 52.2℃, Ambient=24.8℃, No hazard.
Ventilation	Closed	254	55min	-	-	T050 in adaptor=60.7℃, L4 on DC-DC Connection lower board=51.8℃, Ambient=24.9℃, No hazard.
supplementary information : Note : Test voltage is input voltage of AC/DC adaptor						

Remarks #1 : Photograph

<Fig. 1> Inside View

<Fig. 2> Hard Disk Driver

IEC SYSTEM FOR CONFORMITY TESTING TO STANDARDS FOR SAFETY OF ELECTRICAL EQUIPMENT (IECEE) CB SCHEME

Ref. Certificate No.
KR-2985

CB TEST CERTIFICATE

Issued by:	Korea Testing Laboratory (KTL)		
Registration date:	2005-09-15		
Product:	Iris Access		
Applicant:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of
Manufacturer:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of
Factory:	LG Electronics Inc.	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713	Korea, Republic Of

Rating and principal characteristics:	DC19V, 4.74A	
Trade mark (if any):	LG logo and "LG"	
Model/Type reference:	ICU4000	
Additional information:		
Sample of product tested to be in conformity with IEC:	60950-1(ed.1)	and/or EN 60950-1:2001 + Group difference and national deviations of Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Poland, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom
Test Report Ref. No:	05-1331-040	

This CB Test Certificate is issued by the National Certification Body

Korea Testing Laboratory (KTL)
222 - 13 Guro-Dong, Guro-Gu, Seoul 152 - 848, Korea

Signed by: Donggi Kim

Date of issue: 2005-09-15

KTL

TEST REPORT

IEC 60950-1 and/or EN 60950-1

Information technology equipment – Safety – Part 1: General requirements

Report reference No	05-1331-040
Tested by (printed name and signature)	HO-JOON LEE
Approved by (printed name and signature)	YONG-DEUK LEE
Date of issue	September 15, 2005

Testing Laboratory Name	Korea Testing Laboratory
Address	222-13, Guro-Dong, Guro-Gu, Seoul, 152-848, Korea.
Testing location	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above

Applicant's Name	LG Electronics Inc.
Address	19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713, Korea

Test specification	
Standard	IEC 60950-1:2001 (1st Edition) and/or EN 60950-1:2001
Test procedure	CB/CCA –scheme
Procedure deviation	Group Difference and Nation Deviations of Austria, Australia, Belgium, China, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Japan, Korea, Netherlands, Norway, Poland, Russia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom
Non-standard test method	N

Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03

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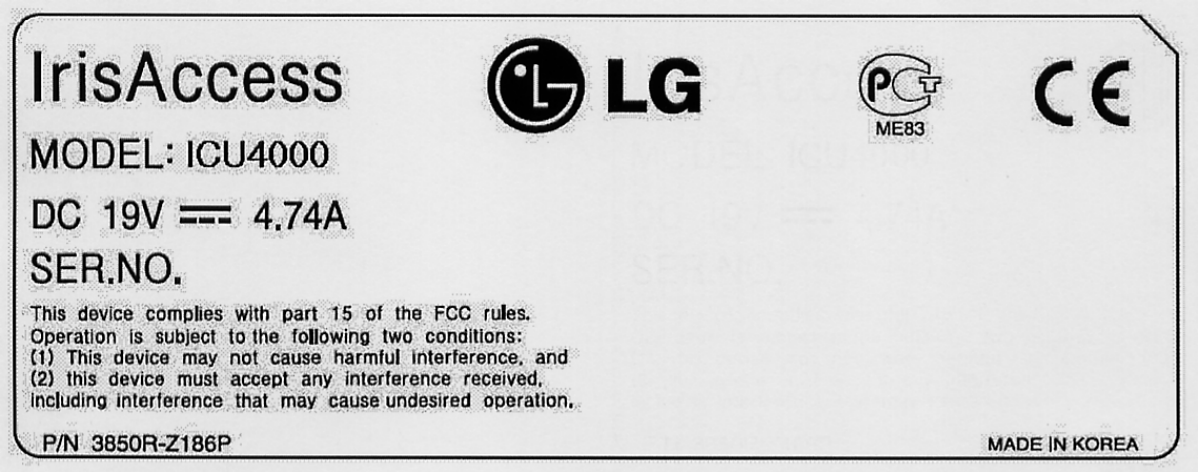
Test item description	Iris Access
Trademark	LG logo and "LG"
Manufacturer	Same as Applicant
Factory	LG Electronics Inc. 19-1, Cheongho-Ri, Jinwuy-Myun, Pyungtaek-Shi, Kyunggi-Do, 451-713, Korea
Model and/or type reference	ICU4000
Serial number	Pre-production sample without serial number
Rating(s)	DC19V, 4.74A

Copy of marking plate



Summary of testing:

All test results were acceptable.

Particulars: test item vs. test requirements

Equipment mobility ..... :	Built-In Equipment
Operating condition ..... :	Continuous
Mains supply tolerance (%) ..... :	AC/DC adaptor: -10%, +6%
Tested for IT power systems ..... :	No
IT testing, phase-phase voltage (V) ..... :	No
Class of equipment ..... :	Class III
Mass of equipment (kg) ..... :	5.0 Kg
Protection against ingress of water ..... :	IP X0

Test case verdicts

Test case does not apply to the test object :	N/A
Test item does meet the requirement ..... :	P(ass)
Test item does not meet the requirement ... :	F(ail)

Testing

Date of receipt of test item ..... :	January 20, 2005
Date(s) of performance of test ..... :	July 14, 2005 – September 15, 2005

General remarks

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The test result presented in this report relate only to the object(s) tested.
This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

"(see Enclosure #)" refers to additional information appended to the report.
"(see appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

General product information:

- All boards in Iris access type ICU4000 are considered as SELV circuit.
- Key lock device is provided in cover and it's access is intended only for service personnel.
- AC/DC adaptor have been certificated according to IEC 60950-1 : 2001 by NEMKO., therefore not part of this test report. Only test cases relevant for the complete configuration are selected.
- Power Cord Set for AC/DC adaptor is not evaluated in this report, but it shall be checked whether type is adequate for the requirement of the each country before export.
- User's manual according to each country language shall be provided to each product.

Appended Contents ;

1. Remarks #1 : Photographs
2. Remarks #2 : Circuit diagram
3. Remarks #3 : Certification of AC/DC adaptor

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General		P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Certified components are used in accordance with their ratings, certifications and they comply with applicable parts of this standard.	P
1.5.3	Thermal controls	No thermal controls.	N
1.5.4	Transformers		N
1.5.5	Interconnecting cables	The interconnecting cable provided between SELV and SELV	P
1.5.6	Capacitors in primary circuits ..... :		N
1.5.7	Double insulation or reinforced insulation bridged by components		N
1.5.7.1	General		N
1.5.7.2	Bridging capacitors		N
1.5.7.3	Bridging resistors		N
1.5.7.4	Accessible parts		N
1.5.8	Components in equipment for IT power systems		N
1.6	Power interface		P
1.6.1	AC power distribution systems	Class III unit intended to be supplied by SELV.	P
1.6.2	Input current	(see appended table 1.6.2)	P
1.6.3	Voltage limit of hand-held equipment	No hand-held equipment	N
1.6.4	Neutral conductor		N
1.7	Marking and instructions		P
1.7.1	Power rating		P
	Rated voltage(s) or voltage range(s) (V) ..... :	DC19V	P
	Symbol for nature of supply, for d.c. only ..... :	Symbol (60417-1- IEC-5031) is used.	P
	Rated frequency or rated frequency range (Hz) :		N
	Rated current (mA or A) ..... :	4.74A	P
	Manufacturer's name or trademark or identification mark ..... :	LG Electronics Inc.	P

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Clause	Requirement – Test	Result	Verdict
	Type/model or type reference..... :	ICU4000	P
	Symbol for Class II equipment only ..... :	Class III equipment	N
	Other symbols ..... :		N
	Certification marks ..... :	CE	P
1.7.2	Safety instructions	Safety instruction is provided.	P
1.7.3	Short duty cycles	Equipment is intended for continuous operation.	N
1.7.4	Supply voltage adjustment ..... :		N
	Methods and means of adjustment; reference to installation instructions ..... :		N
1.7.5	Power outlets on the equipment ..... :	No outlet.	N
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference) ..... :		N
1.7.7	Wiring terminals		P
1.7.7.1	Protective earthing and bonding terminals ..... :		N
1.7.7.2	Terminal for a.c. mains supply conductors		N
1.7.7.3	Terminals for d.c. mains supply conductors		P
1.7.8	Controls and indicators	Switch in iris access: function is obvious by positioning and marking(see cl.1.7.8.3).	P
1.7.8.1	Identification, location and marking ..... :		N
1.7.8.2	Colours ..... :	For functional indication a LED light when the equipment is operating.	N
1.7.8.3	Symbols according to IEC 60417 ..... :	Marking for switch according to IEC60417-1 No.5007 (I)and 5008(○).	P
1.7.8.4	Markings using figures ..... :		N
1.7.9	Isolation of multiple power sources ..... :	Only one connection.	N
1.7.10	IT power distribution systems		N
1.7.11	Thermostats and other regulating devices		N
1.7.12	Language(s) ..... :	Verified in English. Instructions and markings shall be in a language acceptable for the country where the equipment is to be used.	—
1.7.13	Durability	The marking withstands required tests.	P
1.7.14	Removable parts	No marking is placed on removable parts.	N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
1.7.15	Replaceable batteries	Lithium battery not replaceable by user. Warning statement provided in operating and service instructions.	P
	Language(s)..... :	English	—
1.7.16	Operator access with a tool ..... :		N
1.7.17	Equipment for restricted access locations ..... :		N
2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	Class III equipment	P
2.1.1.1	Access to energized parts	No energized parts in equipment.	N
	Test by inspection ..... :		N
	Test with test finger ..... :		N
	Test with test pin ..... :		N
	Test with test probe ..... :		N
2.1.1.2	Battery compartments ..... :		N
2.1.1.3	Access to ELV wiring	No ELV wiring in operator access area.	N
	Working voltage (Vpeak or Vrms); minimum distance (mm) through insulation		—
2.1.1.4	Access to hazardous voltage circuit wiring		N
2.1.1.5	Energy hazards ..... :	No energy hazards in operator access area.	N
2.1.1.6	Manual controls	No shafts of knobs etc.	N
2.1.1.7	Discharge of capacitors in equipment		N
	Time-constant (s); measured voltage (V) ..... :		—
2.1.2	Protection in service access areas		N
2.1.3	Protection in restricted access locations		N
2.2	SELV circuits		P
2.2.1	General requirements	AC/DC Adaptor : Certified	N
2.2.2	Voltages under normal conditions (V) ..... :		N
2.2.3	Voltages under fault conditions (V)..... :		N
2.2.3.1	Separation by double insulation or reinforced insulation (method 1)		N
2.2.3.2	Separation by earthed screen (method 2)		N

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Clause	Requirement – Test	Result	Verdict
2.2.3.3	Protection by earthing of the SELV circuit (method 3)		N
2.2.4	Connection of SELV circuits to other circuits..... :	SELV circuits are only connected to other SELV circuits.	P
2.3	TNV circuits		N
2.3.1	Limits		N
	Type of TNV circuits ..... :		—
2.3.2	Separation from other circuits and from accessible parts		N
	Insulation employed..... :		—
2.3.3	Separation from hazardous voltages		N
	Insulation employed..... :		—
2.3.4	Connection of TNV circuits to other circuits		N
	Insulation employed..... :		—
2.3.5	Test for operating voltages generated externally		N
2.4	Limited current circuits		N
2.4.1	General requirements		N
2.4.2	Limit values		N
	Frequency (Hz) ..... :		—
	Measured current (mA)..... :		—
	Measured voltage (V) ..... :		—
	Measured capacitance (μF)..... :		—
2.4.3	Connection of limited current circuits to other circuits		N
2.5	Limited power sources		N
	Inherently limited output		N
	Impedance limited output		N
	Overcurrent protective device limited output		N
	Regulating network limited output under normal operating and single fault condition		N
	Regulating network limited output under normal operating conditions and overcurrent protective device limited output under single fault condition		N
	Output voltage (V), output current (A), apparent power (VA)..... :		—
	Current rating of overcurrent protective device (A)		—

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Clause	Requirement – Test	Result	Verdict
2.6	Provisions for earthing and bonding		N
2.6.1	Protective earthing	Class III equipment	N
2.6.2	Functional earthing		N
2.6.3	Protective earthing and protective bonding conductors		N
2.6.3.1	General		N
2.6.3.2	Size of protective earthing conductors		N
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.3	Size of protective bonding conductors		N
	Rated current (A), cross-sectional area (mm^2), AWG ..... :		—
2.6.3.4	Resistance (Ω) of earthing conductors and their terminations, test current (A) ..... :		N
2.6.3.5	Colour of insulation ..... :		N
2.6.4	Terminals		N
2.6.4.1	General		N
2.6.4.2	Protective earthing and bonding terminals		N
	Rated current (A), type and nominal thread diameter (mm)..... :		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N
2.6.5	Integrity of protective earthing		N
2.6.5.1	Interconnection of equipment		N
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N
2.6.5.3	Disconnection of protective earth		N
2.6.5.4	Parts that can be removed by an operator		N
2.6.5.5	Parts removed during servicing		N
2.6.5.6	Corrosion resistance		N
2.6.5.7	Screws for protective bonding		N
2.6.5.8	Reliance on telecommunication network or cable distribution system		N
2.7	Overcurrent and earth fault protection in primary circuits		N
2.7.1	Basic requirements		N
	Instructions when protection relies on building installation		N
2.7.2	Faults not covered in 5.3		N

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Clause	Requirement – Test	Result	Verdict
2.7.3	Short-circuit backup protection		N
2.7.4	Number and location of protective devices ..... :		N
2.7.5	Protection by several devices		N
2.7.6	Warning to service personnel ..... :		N
2.8	Safety interlocks		N
2.8.1	General principles	No safety interlocks.	N
2.8.2	Protection requirements		N
2.8.3	Inadvertent reactivation		N
2.8.4	Fail-safe operation		N
2.8.5	Moving parts		N
2.8.6	Overriding		N
2.8.7	Switches and relays		N
2.8.7.1	Contact gaps (mm) ..... :		N
2.8.7.2	Overload test		N
2.8.7.3	Endurance test		N
2.8.7.4	Electric strength test		N
2.8.8	Mechanical actuators		N
2.9	Electrical insulation		N
2.9.1	Properties of insulating materials	Class III equipment	N
2.9.2	Humidity conditioning		N
	Humidity (%) ..... :		—
	Temperature (°C) ..... :		—
2.9.3	Grade of insulation		N
2.10	Clearances, creepage distances and distances through insulation		N
2.10.1	General		N
2.10.2	Determination of working voltage		N
2.10.3	Clearances		N
2.10.3.1	General		N
2.10.3.2	Clearances in primary circuits		N
2.10.3.3	Clearances in secondary circuits		N
2.10.3.4	Measurement of transient voltage levels		N
2.10.4	Creepage distances		N
	CTI tests..... :		—
2.10.5	Solid insulation		N

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Clause	Requirement – Test	Result	Verdict
2.10.5.1	Minimum distance through insulation		N
2.10.5.2	Thin sheet material		N
	Number of layers (pcs) ..... :		—
	Electric strength test		—
2.10.5.3	Printed boards		N
	Distance through insulation		N
	Electric strength test for thin sheet insulating material		—
	Number of layers (pcs) ..... :		N
2.10.5.4	Wound components		N
	Number of layers (pcs) ..... :		N
	Two wires in contact inside wound component; angle between 45° and 90° ..... :		N
2.10.6	Coated printed boards		N
2.10.6.1	General		N
2.10.6.2	Sample preparation and preliminary inspection		N
2.10.6.3	Thermal cycling		N
2.10.6.4	Thermal ageing (°C) ..... :		N
2.10.6.5	Electric strength test		—
2.10.6.6	Abrasion resistance test		
	Electric strength test		—
2.10.7	Enclosed and sealed parts ..... :		N
	Temperature $T_1=T_2 + T_{ma} – T_{amb}$ +10K (°C)..... :		N
2.10.8	Spacings filled by insulating compound ..... :		N
	Electric strength test		—
2.10.9	Component external terminations		N
2.10.10	Insulation with varying dimensions		N
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P
3.1.1	Current rating and overcurrent protection	Adequate cross sectional areas on internal wiring.	P
3.1.2	Protection against mechanical damage	Wireways are smooth and free from edges. Wires are adequately fixed to prevent excessive strain on wire and terminals and to avoid damage to the insulation of the conductors.	P

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Clause	Requirement – Test	Result	Verdict
3.1.3	Securing of internal wiring	Internal wiring is secured against excessive strain, loosening of terminals and damage to the conductor insulation.	P
3.1.4	Insulation of conductors		N
3.1.5	Beads and ceramic insulators		N
3.1.6	Screws for electrical contact pressure	Metal screw engaged more than two threads into metal.	P
3.1.7	Insulating materials in electrical connections		N
3.1.8	Self-tapping and spaced thread screws	Thread-cutting or spaced thread screws are not used for electrical connections.	P
3.1.9	Termination of conductors	All conductors are reliable secured.	P
	10 N pull test	Class III equipment	N
3.1.10	Sleeving on wiring	Sleeves can only be removed by breaking or cutting.	P
3.2	Connection to an a.c. mains supply or a d.c. mains supply		N
3.2.1	Means of connection ..... :		N
3.2.1.1	Connection to an a.c. mains supply		N
3.2.1.2	Connection to a d.c. mains supply		N
3.2.2	Multiple supply connections		N
3.2.3	Permanently connected equipment		N
	Number of conductors, diameter (mm) of cable and conduits ..... :		—
3.2.4	Appliance inlets		N
3.2.5	Power supply cords		N
3.2.5.1	AC power supply cords		N
	Type ..... :		—
	Rated current (A), cross-sectional area (mm^2), AWG .....:		—
3.2.5.2	DC power supply cords		N
3.2.6	Cord anchorages and strain relief		N
	Mass of equipment (kg), pull (N) .....:		—
	Longitudinal displacement (mm) .....:		—
3.2.7	Protection against mechanical damage		N
3.2.8	Cord guards		N
	D (mm); test mass (g) .....:		—
	Radius of curvature of cord (mm).....:		—

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Clause	Requirement – Test	Result	Verdict
3.2.9	Supply wiring space		N
3.3	Wiring terminals for connection of external conductors		N
3.3.1	Wiring terminals		N
3.3.2	Connection of non-detachable power supply cords		N
3.3.3	Screw terminals		N
3.3.4	Conductor sizes to be connected		N
	Rated current (A), cord/cable type, cross-sectional area (mm^2)..... :		—
3.3.5	Wiring terminal sizes		N
	Rated current (A), type and nominal thread diameter (mm) ..... :		—
3.3.6	Wiring terminals design		N
3.3.7	Grouping of wiring terminals		N
3.3.8	Stranded wire		N
3.4	Disconnection from the mains supply		N
3.4.1	General requirement	Class III equipment	N
3.4.2	Disconnect devices		N
3.4.3	Permanently connected equipment		N
3.4.4	Parts which remain energized		N
3.4.5	Switches in flexible cords		N
3.4.6	Single-phase equipment and d.c. equipment		N
3.4.7	Three-phase equipment		N
3.4.8	Switches as disconnect devices		N
3.4.9	Plugs as disconnect devices		N
3.4.10	Interconnected equipment		N
3.4.11	Multiple power sources		N
3.5	Interconnection of equipment		P
3.5.1	General requirements	Considered.	P
3.5.2	Types of interconnection circuits ..... :	SELV circuit	P
3.5.3	ELV circuits as interconnection circuits		N
4	PHYSICAL REQUIREMENTS		P
4.1	Stability		P

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Clause	Requirement – Test	Result	Verdict
	Angle of 10°	The unit does not overbalance at angle of 10°.	P
	Test: force (N) ..... :		N
4.2	Mechanical strength		N
4.2.1	General		N
4.2.2	Steady force test, 10 N		N
4.2.3	Steady force test, 30 N		N
4.2.4	Steady force test, 250 N		N
4.2.5	Impact test		N
	Fall test		N
	Swing test		N
4.2.6	Drop test		N
4.2.7	Stress relief test		N
4.2.8	Cathode ray tubes		N
	Picture tube separately certified ..... :		N
4.2.9	High pressure lamps		N
4.2.10	Wall or ceiling mounted equipment; force (N) ... :		N
4.3	Design and construction		P
4.3.1	Edges and corners	All edges and corners are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N) ..... :	No knobs, grips, handles, lever etc affecting safety.	N
4.3.3	Adjustable controls	No hazardous adjustable controls.	N
4.3.4	Securing of parts		N
4.3.5	Connection of plugs and sockets		N
4.3.6	Direct plug-in equipment		N
	Dimensions (mm) of mains plug for direct plug-in ..... :		N
	Torque and pull test of mains plug for direct plug-in; torque (Nm); pull (N) ..... :		N
4.3.7	Heating elements in earthed equipment	No heating elements in the equipment.	N
4.3.8	Batteries	Construction of protection circuit: 1Kohm resistor and diode.	P
4.3.9	Oil and grease		N

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Clause	Requirement – Test	Result	Verdict
4.3.10	Dust, powders, liquids and gases	The equipment does not produce dust or use poweders, liquids or gases.	N
4.3.11	Containers for liquids or gases	No containers for liquids or gases in the equipment.	N
4.3.12	Flammable liquids.....:	The equipment does not contain flammable liquid.	N
	Quantity of liquid (l).....:		N
	Flash point (°C).....:		N
4.3.13	Radiation; type of radiation .....:	No radiation.	N
4.3.13.1	General		N
4.3.13.2	Ionizing radiation		N
	Measured radiation (pA/kg) ..... :		—
	Measured high-voltage (kV) ..... :		—
	Measured focus voltage (kV) ..... :		—
	CRT markings ..... :		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N
	Part, property, retention after test, flammability classification ..... :		N
4.3.13.4	Human exposure to ultraviolet (UV) radiation ..... :		N
4.3.13.5	Laser (including LEDs)		N
	Laser class ..... :		—
4.3.13.6	Other types ..... :		N
4.4	Protection against hazardous moving parts		N
4.4.1	General		N
4.4.2	Protection in operator access areas		N
4.4.3	Protection in restricted access locations		N
4.4.4	Protection in service access areas		N
4.5	Thermal requirements		P
4.5.1	Maximum temperatures	(see appended table 4.5)	P
	Normal load condition per Annex L ..... :		N
4.5.2	Resistance to abnormal heat		N
4.6	Openings in enclosures		P
4.6.1	Top and side openings	No hazardous voltage, SELV only.	P
	Dimensions (mm) ..... :		—

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Clause	Requirement – Test	Result	Verdict
4.6.2	Bottoms of fire enclosures	Fire enclosure consideration is considered to comply with the requirement.	P
	Construction of the bottom..... :		—
4.6.3	Doors or covers in fire enclosures	Key lock device is provided in cover and it's access is intended only for service personnel	P
4.6.4	Openings in transportable equipment		N
4.6.5	Adhesives for constructional purposes		N
	Conditioning temperature (°C)/time (weeks) ..... :		—
4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	Materials with the required flammability classes are used.	P
	Method 1, selection and application of components wiring and materials	Method 1 used.	P
	Method 2, application of all of simulated fault condition tests		N
4.7.2	Conditions for a fire enclosure		P
4.7.2.1	Parts requiring a fire enclosure	The fire enclosure is required to cover all parts.	P
4.7.2.2	Parts not requiring a fire enclosure		N
4.7.3	Materials		P
4.7.3.1	General	Components and materials have adequate flammability classification.	P
4.7.3.2	Materials for fire enclosures	Metal enclosure	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are V-2, HF-2 or better.	P
4.7.3.5	Materials for air filter assemblies		N
4.7.3.6	Materials used in high-voltage components		N
5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		N
5.1.1	General	Class III equipment	N
5.1.2	Equipment under test (EUT)		N
5.1.3	Test circuit		N

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Clause	Requirement – Test	Result	Verdict
5.1.4	Application of measuring instrument		N
5.1.5	Test procedure		N
5.1.6	Test measurements		N
	Test voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
	Measured protective conductor current (mA) ....:		—
	Max. allowed protective conductor current (mA) :		—
5.1.7	Equipment with touch current exceeding 3.5 mA .....:		N
5.1.8	Touch currents to and from telecommunication networks and cable distribution systems and from telecommunication networks		N
5.1.8.1	Limitation of the touch current to a telecommunication network and a cable distribution system		N
	Test voltage (V) .....:		—
	Measured touch current (mA) .....:		—
	Max. allowed touch current (mA) .....:		—
5.1.8.2	Summation of touch currents from telecommunication networks .....:		N
5.2	Electric strength		P
5.2.1	General	(see appended table 5.2)	P
5.2.2	Test procedure	(see appended table 5.2)	P
5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	(see appended table 5.3)	P
5.3.2	Motors	(see appended Annex B)	P
5.3.3	Transformers		N
5.3.4	Functional insulation ..... :	Class III Equipment	N
5.3.5	Electromechanical components		N
5.3.6	Simulation of faults		N
5.3.7	Unattended equipment	(see appended table 5.3)	P
5.3.8	Compliance criteria for abnormal operating and fault conditions	No fire or molten metal occurred and no deformation of enclosure during the tests.	P
6	CONNECTION TO TELECOMMUNICATION NETWORKS		N

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Clause	Requirement – Test	Result	Verdict
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		N
6.1.1	Protection from hazardous voltages		N
6.1.2	Separation of the telecommunication network from earth		N
6.1.2.1	Requirements		N
	Test voltage (V) .....:		—
	Current in the test circuit (mA) .....:		—
6.1.2.2	Exclusions.....:		N
6.2	Protection of equipment users from overvoltages on telecommunication networks		N
6.2.1	Separation requirements		N
6.2.2	Electric strength test procedure		N
6.2.2.1	Impulse test		N
6.2.2.2	Steady-state test		N
6.2.2.3	Compliance criteria		N
6.3	Protection of the telecommunication wiring system from overheating		N
	Max. output current (A).....:		—
	Current limiting method.....:		—
7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N
7.1	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N
7.2	Protection of equipment users from overvoltages on the cable distribution system		N
7.3	Insulation between primary circuits and cable distribution systems		N
7.3.1	General		N
7.3.2	Voltage surge test		N
7.3.3	Impulse test		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		N
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N
A.1.1	Samples ..... :		—
	Wall thickness (mm) ..... :		—
A.1.2	Conditioning of samples; temperature (°C) ..... :		N
A.1.3	Mounting of samples..... :		N
A.1.4	Test flame (see IEC 60695-11-3)		N
	Flame A, B, C or D ..... :		—
A.1.5	Test procedure		N
A.1.6	Compliance criteria		N
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		N
A.2.1	Samples, material ..... :		—
	Wall thickness (mm) ..... :		—
A.2.2	Conditioning of samples		N
A.2.3	Mounting of samples ..... :		N
A.2.4	Test flame (see IEC 60695-11-4)		N
	Flame A, B or C ..... :		—
A.2.5	Test procedure		N
A.2.6	Compliance criteria		N
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.2.7	Alternative test acc. to IEC 60695-2-2, cl. 4 and 8		N
	Sample 1 burning time (s)..... :		—
	Sample 2 burning time (s)..... :		—
	Sample 3 burning time (s)..... :		—
A.3	Hot flaming oil test (see 4.6.2)		N
A.3.1	Mounting of samples		N
A.3.2	Test procedure		N
A.3.3	Compliance criterion		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		P
B.1	General requirements		P
	Position ..... :	CPU FAN	—
	Manufacturer ..... :	AVC	—
	Type ..... :	C4010T12H	—
	Rated values ..... :	12Vdc, 0.1A, Class A	—
B.2	Test conditions	In the equipment	P
B.3	Maximum temperatures	(see appended table 5.3)	P
B.4	Running overload test		N
B.5	Locked-rotor overload test		N
	Test duration (days) ..... :		—
	Electric strength test: test voltage (V) ..... :		—
B.6	Running overload test for d.c. motors in secondary circuits		N
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		P
B.7.1	Test procedure	(see appended table 5.3)	P
B.7.2	Alternative test procedure; test time (h)..... :		N
B.7.3	Electric strength test		N
B.8	Test for motors with capacitors		N
B.9	Test for three-phase motors		N
B.10	Test for series motors		N
	Operating voltage (V) ..... :		—
C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N
	Position ..... :		—
	Manufacturer ..... :		—
	Type ..... :		—
	Rated values ..... :		—
	Method of protection ..... :		—
C.1	Overload test		N
C.2	Insulation		N
	Protection from displacement of windings..... :		N
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		N
D.1	Measuring instrument		N
D.2	Alternative measuring instrument		N

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Clause	Requirement – Test	Result	Verdict
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10)		N
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N
G.1	Summary of the procedure for determining minimum clearances		N
G.2	Determination of mains transient voltage (V) ..... :		N
G.2.1	AC mains supply		N
G.2.2	DC mains supply		N
G.3	Determination of telecommunication network transient voltage (V)..... :		N
G.4	Determination of required withstand voltage (V) :		N
G.5	Measurement of transient levels (V)..... :		N
G.6	Determination of minimum clearances ..... :		N
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N
J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		P
	Metal used ..... :		—
K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.7)		N
K.1	Making and breaking capacity		N
K.2	Thermostat reliability; operating voltage (V)..... :		N
K.3	Thermostat endurance test; operating voltage (V) ..... :		N
K.4	Temperature limiter endurance; operating voltage (V) ..... :		N
K.5	Thermal cut-out reliability		N
K.6	Stability of operation		N
L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.1)		N
L.1	Typewriters		N
L.2	Adding machines and cash registers		N
L.3	Erasers		N
L.4	Pencil sharpeners		N

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L.5	Duplicators and copy machines		N
L.6	Motor-operated files		N
L.7	Other business equipment		N
M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N
M.1	Introduction		N
M.2	Method A		N
M.3	Method B		N
M.3.1	Ringing signal		N
M.3.1.1	Frequency (Hz) ..... :		—
M.3.1.2	Voltage (V) ..... :		—
M.3.1.3	Cadence; time (s), voltage (V) ..... :		—
M.3.1.4	Single fault current (mA)..... :		—
M.3.2	Tripping device and monitoring voltage..... :		N
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N
M.3.2.2	Tripping device		N
M.3.2.3	Monitoring voltage (V)..... :		N
N	ANNEX N, IMPULSE TEST GENERATORS (see 2.10.3.4, 6.2.2.1, 7.3.2 and clause G.5)		N
N.1	ITU-T impulse test generators		N
N.2	IEC 60065 impulse test generator		N
P	ANNEX P, NORMATIVE REFERENCES		P
Q	ANNEX Q, BIBLIOGRAPHY		P
R	ANNEX R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6)		N
R.2	Reduced clearances (see 2.10.3)		N
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N
S.1	Test equipment		N
S.2	Test procedure		N
S.3	Examples of waveforms during impulse testing		N

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T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N
		See separate test report	—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N
V.1	Introduction		N
V.2	TN power distribution systems		N
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N
W.1	Touch current from electronic circuits		N
W.1.2	Earthed circuits		N
W.2	Interconnection of several equipments		N
W.2.1	Isolation		N
W.2.2	Common return, isolated from earth		N
W.2.3	Common return, connected to protective earth		N
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSRORMER TESTS (see clause C.1)		N
X.1	Determination of maximum input current		N
X.2	Overload test procedure		N
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N
Y.1	Test apparatus ..... :		N
Y.2	Mounting of test samples ..... :		N
Y.3	Carbon-arc light-exposure apparatus ..... :		N
Y.4	Xenon-arc light exposure apparatus ..... :		N

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CENELEC COMMON MODIFICATIONS [C], SPECIAL NATIONAL CONDITIONS [S] AND A-DEVIATIONS (NATIONAL DEVIATIONS) [A] (EN 60950-1:2001, Annex ZB and Annex ZC)			-
General	C: Delete all the "country" notes in the reference document according to the following list: 1.1.5 Note 2 1.5.8 Note 2 1.6.1 Note 1.7.2 Note 4 1.7.12 Note 2 2.6 Note 2.2.3 Note 2.2.4 Note 2.3.2 Note 2, 7, 8 2.3.3 Note 1, 2 2.3.4 Note 2,3 2.7.1 Note 2.10.3.1 Note 4 3.2.1.1 Note 3.2.3 Note 1, 2 3.2.5.1 Note 2 4.3.6 Note 1,2 4.7.2.2 Note 4.7.3.1 Note 2 6.1.2.1 Note 6.1.2.2 Note 6.2.2 Note 6.2.2.1 Note 2 6.2.2.2 Note 7 Note 4 7.1 Note G2.1 Note 1, 2 Annex H Note 2	Considered.	N
1.2.4.1	S (DK): Certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.		N
1.5.1	A (SE, Ordinance 1990:944 and CH, Ordinance on environmentally hazardous substances SR 814.013, Annex 3.2, Mercury): Add NOTE – Switches containing mercury such as thermostats, relays and level controllers are not allowed.	There no components containing mercury in the equipment.	N
1.5.8	S (NO): Due to the IT power system used (see annex V, Fig. V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).		N
1.7.2	S (FI, NO, SE): CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet. The marking text in the applicable countries shall be as follows:		N
	FI: "Laite on liitettävä suojamaadoitus-koskettimilla varustettuun pistorasiaan"		N
	NO: "Apparatet må tilkoples jordet stikkontakt"		N
	SE: "Apparaten skall anslutas till jordat uttag"		N
	A (DK, Heavy Current Regulations): Supply cords of class I equipment, which is delivered without a plug, must be provided with a visible tag with the following text: Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket eller If essential for the safety of the equipment, the		N

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Clause	Requirement – Test	Result	Verdict
	tag must in addition be provided with a diagram which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende instalationsvejledning."		
1.7.5	S (DK): Socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For stationary equipment the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	There are no socket outlets providing power to other appliances.	N
1.7.5	A (DK, Heavy Current Regulations): CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.	Class III equipment	N
1.7.12	A (DE, Gesetz über techische Arbeitsmittel (Gerätesicherheitsgesetz) [Law on technical labour equipment {Equipment safety law}], of 23rd October 1992, Article 3, 3rd paragraph, 2nd sentence, together with the "Allgemeine Verwaltungsvorschrift zur Durchführung des Zweiten Abschnitts des Gerätesicherheits-gesetzes" [General administrative regulation on the execution of the Second Section of the Equipment safety law], of 10th January 1996, article 2, 4th paragraph item 2): Directions for use with rules to prevent certain hazards for (among others) maintenance of the technical labour equipment, also for imported technical labour equipment shall be written in the German language. NOTE: Of this requirement, rules for use even only by service personnel are not exempted.	Must be considered before marketed in Germany.	N
1.7.15	A (CH, Ordinance on environmentally hazardous substances SR 814.013): Annex 4.10 of SR 814.013 applies for batteries.	Lithium battery not replaceable by user. Warning statement provided in operating and service instructions.	N
	A (DE, Regulation on protection against hazards by X-ray, of 8th January 1987, Article 5 [Operation of X-ray emission source], clauses 1 to 4): a) A licence is required by those who operate an X-ray emission source. b) A licence in accordance with Cl. 1 is not required by those who operate an X-ray emission source on which the electron acceleration voltage does not exceed 20 kV if 1) the local dose rate at a distance of 0,1 m from the surface does not exceed 1 µSv/h and 2) it is adequately indicated on the X-ray emission source that	No X-ray radiation.	N

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Clause	Requirement – Test	Result	Verdict
	i) X-rays are generated and ii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. c) A licence in accordance with Cl. 1 is also not required by persons who operate an X-ray emission source on which the electron acceleration voltage exceeds 20 kV if 1) the X-ray emission source has been granted a type approval and 2) it is adequately indicated on the X-ray emission source that i) X-rays are generated ii) the device stipulated by the manufacturer or importer guarantees that the maximum permissible local dose rate in accordance with the type approval is not exceeded and iii) the electron acceleration voltage must not exceed the maximum value stipulated by the manufacturer or importer. d) Furthermore, a licence in accordance with Cl. 1 is also not required by persons who operate X-ray emission sources on which the electron acceleration voltage does not exceed 30 kV if 1) the X-rays are generated only by intrinsically safe CRTs complying with Enclosure III, No. 6, 2) the values stipulated in accordance with Enclosure III, No. 6.2 are limited by technical measures and specified in the device and 3) it is adequately indicated on the X-ray emission source that the X-rays generated are adequately screened by the intrinsically safe CRT.		
2.2.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N
2.3.2	S (NO): Requirements according to this annex, 6.1.2.1 apply.		N
2.3.3 and 2.3.4	S (NO): Requirements according to this annex, 1.7.2 and 6.1.2.1 apply.		N
2.6.3.3	S (GB): The current rating of the circuit shall be taken as 13 A, not 16 A.		N
2.7.1	C: Replace the subclause as follows: *Basic requirements* To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):	Class III equipment	N

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Clause	Requirement – Test	Result	Verdict
	a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment; b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation; c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions. If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.		
	S (GB): To protect against excessive currents and short-circuits in the PRIMARY CIRCUIT OF DIRECT PLUG-IN EQUIPMENT, protective device shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT.	Not a direct plug-in equipment.	N
2.7.2	C: Void.	Considered.	P
2.10.2	C: Replace in the first line "(see also 1.4.7)" by "(see also 1.4.8)".	Considered.	P
2.10.3.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage and will remain at 230 V in case of a single earth fault		N
3.2.1.1	S (CH): Supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets: SEV 6532-2.1991, Plug type 15, 3P+N+PE 250/400 V, 10 A SEV 6533-2.1991, Plug type 11, L+N 250 V, 10 A SEV 6534-2.1991, Plug type 12, L+N+PE 250 V, 10 A In general, EN 60309 applies for plugs for currents exceeding 10A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998: SEV 5932-2.1998, Plug type 25, 3L+N+PE 230/400 V, 16 A SEV 5933-2.1998, Plug type 21, L+N 250 V, 16 A SEV 5934-2.1998, Plug type 23, L+N+PE 250 V, 16 A		N

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Clause	Requirement – Test	Result	Verdict
	S (DK): Supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a. If ply-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.		N
	S (ES): Supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994. Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993. CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994. If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.		N
	S (GB): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 – The Plugs and Socket etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE – 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N

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Clause	Requirement – Test	Result	Verdict
	S (IE): Apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 – National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N
3.2.3	C: Delete Note 1 and in Table 3A, delete the conduit sizes in parentheses.		N
3.2.5.1	C: Replace "60245 IEC 53" by "H05 RR-F"; "60227 IEC 52" by "H03 VV-F or H03 VVH2-F"; "60227 IEC 53" by "H05 VV-F or H05 VVH2-F2". In Table 3B, replace the first four lines by the following: Up to and including 6 0,75[1)] Over 6 up to and including 10 (0,75)[2)] 1,0 Over 10 up to and including 16 (1,0)[3)] 1,5 In the Conditions applicable to Table 3B delete the words "in some countries" in condition [1)]. In Note 1, applicable to Table 3B, delete the second sentence.		N
3.2.5.1	S (GB): A power supply cord with conductor of 1,25 mm^2 is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N
3.3.4	C: In table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following: "Over 10 up to and including 16 | 1,5 to 2,5 | 1,5 to 4" Delete the fifth line: conductor sizes for 13 to 16 A.		N
3.3.4	S (GB): The range of conductor sizes of flexible cords to be accepted by terminals for equipment with A RATED CURRENT of over 10 A up to and including 13 A is: - 1,25 mm^2 to 1,5 mm^2 nominal cross-sectional area.		N
4.3.6	S (GB): The torque test is performed using a socket outlet complying with BS 1363 and the plug part OF DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C.	Not a direct plug-in equipment.	N

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Clause	Requirement – Test	Result	Verdict
	S (IE): DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 – National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.	Not a direct plug-in equipment.	N
4.3.13.6	C: Add the following note: NOTE Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this recommendation are currently under development.	No radiation.	N
6.1.2.1	S (FI, NO, SE): Add the following text between the first and second paragraph: If this insulation is solid, including insulation forming part of a component, it shall at least consist of either - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES AND CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition - passes the tests and inspection criteria of 2.10.8 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.7 shall be performed using 1,5 kV), and - is subject to ROUTINGE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2. A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions: - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950:2000, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400;	No TNV circuit in the equipment.	N

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	- the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400.		
6.1.2.2	S (FI, NO, SE): The exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a service person.	No TNV circuit in the equipment.	N
7.1	S (FI, NO, SE): Requirements according to this annex, 6.1.2.1 and 6.1.2.2 apply with the term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.		N
G.2.1	S (NO): Due to the IT power distribution system used (see annex V, Fig. V.7), the A.C. MAINS SUPPLY voltage is considered to be equal to the line-to-line voltage, and will remain at 230 V in case of a single earth fault.		N
Annex H	C: Replace the last paragraph of this annex by: At any point 10 cm from the surface of the operator access area, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see note). Account is taken of the background level. Replace the notes as follows: NOTE These values appear in Directive 96/29/Euratom. Delete Note 2.		N
Annex P	C: Replace the text of this annex by: See annex ZA.	Considered.	P
Annex Q	C: Replace the title of IEC 61032 by "Protection of persons and equipment by enclosures – Probes for verification". Add the following notes for the standards indicated: IEC 60127 NOTE Harmonized as EN 60127 (Series) (not modified) IEC 60269-2-1 NOTE Harmonized as HD 630.2.1 S4:2000 (modified) IEC 60529 NOTE Harmonized as EN 60529:1991 (not modified) IEC 61032 NOTE Harmonized as EN 61032:1998 (not modified) IEC 61140 NOTE Harmonized as EN 61140:2001 (not modified) ITU-T Recommendation K.31 NOTE in Europe, the suggested document is EN 50083-1.		P

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Annex ZA	C: NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR RELEVANT EUROPEAN PUBLICATIONS This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referrd to applies (including amendments). NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.		P

—	IEC 60050-151
—	IEC 60050-195
EN 60065:1998 + corr. June 1999	IEC 60065 (mod):1998
EN 60073:1996	IEC 60073:1996
HD 566 S1:1990	IEC 60085:1984
HD 214 S2:1980	IEC 60112:1979
HD 611.4.1.S1:1992	IEC 60216-4-1:1990
HD 21 [1)] Series	IEC 60227 (mod) Series
HD 22 [2)] Series	IEC 60245 (mod) Series
EN 60309 Series	IEC 60309 Series
EN 60317-43:1997	IEC 60317-43:1997
EN 60320 Series	IEC 60320 (mod) Series
HD 384.3 S2:1995	IEC 60364-3 (mod):1993
HD 384.4.41 S2:1996	IEC 60364-4-41 (mod):1992 [3)]
EN 132400:1994 [4)] + A2:1998 + A3:1998 + A4:2001	IEC 60384-14:1993
EN 60417-1	IEC 60417-1
HD 625.1 S1:1996 + corr. Nov. 1996	IEC 60664-1 (mod):1992
EN 60695-2-2:1994	IEC 60695-2-2:1991
EN 60695-2-11:2001	IEC 60695-2-11:2000
—	IEC 60695-2-20:1995
—	IEC 60695-10-2:1995
—	IEC 60695-11-3:2000
—	IEC 60695-11-4:2000
EN 60695-11-10:1999	IEC 60695-11-10:1999
EN 60695-11-20:1999	IEC 60695-11-20:1999
EN 60730-1:2000	IEC 60730-1:1999 (mod)
EN 60825-1:1994 + corr. Febr. 1995 + A11:1996 + corr. July 1997	IEC 60825-1:1993
EN 60825-2:2000	IEC 60825-2:2000
—	IEC 60825-9:1999
EN 60851-3:1996	IEC 60851-3:1996
EN 60851-5:1996	IEC 60825-5:1996
EN 60851-6:1996	IEC 60851-6:1996
—	IEC 60885-1:1987
EN 60990:1999	IEC 60990:1999
—	IEC 61058-1:2000
EN 61965:2001	IEC 61965:2000
EN ISO 178:1996	ISO 178:1993
EN ISO 179 Series	ISO 179 Series
EN ISO 180:2000	ISO 180:1993
—	ISO 261:1998
—	ISO 262:1998
EN ISO 527 Series	ISO 527 Series

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	— ISO 386:1984 EN ISO 4892 Series ISO 4892 Series — ISO 7000:1989 EN ISO 8256:1996 ISO 8256:1990 — ISO 9772:1994 EN ISO 9773:1998 ISO 9773:1998 — ITU-T:1988 Recommendation K.17 — ITU-T:2000 Recommendation K.21 1) The HD 21 series is related to, but not directly equivalent with the IEC 60227 series 2) The HD 22 series is related to, but not directly equivalent with the IEC 60245 series 3) IEC 60364-4-41:1992 is superseded by IEC 60364-4-41:2001 4) EN 132400, Sectional Specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains (Assessment level D), and its amendments are related to, but not directly equivalent to IEC 60384-14		

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1.5.1	TABLE: list of critical components				P
object/part No.	manufacturer/ trademark	type/model	technical data	standard	mark(s) of conformity[1])
Switch	Sung Mun Electronics	KRA1101K-WBBF	250V, 5A	-	UL,CSA
Lithium Battery	Hitachi Maxell	CR2032	3Vdc, 210mAh	-	-
CPU Fan	AVC	C4010T12H	12Vdc, 0.1A	-	TUV,ULCSA,CE
PWB(VIA main board, WIB board, DIB board, Combination_EIF, Basic_EIF_A, Xscale board)	Daeduck GDS	DD4, DD6	V-0, 130°C	UL94	UL
PWB(Indication board, Via PCI, Xscale power board, DC-DC connection board)	Daeduck GDS	D2	V-0, 130°C	UL94	UL
Enclosure	Various	Metal	Min. 1.2mm thick.	-	-
AC/DC adaptor	Lite-On Technology Corporation	PA-1900-08GR	Input:100-240Vac, 50-60Hz,1.5A Output: +19Vdc, 4.74A	IEC60950-1(1st Edition)	NEMKO (CB Certi. No.: NO 30405, CB Report No.: 29318)
[1]) an asterisk indicates a mark which assures the agreed level of surveillance					

1.6.2	TABLE: electrical data (in normal conditions)					P
fuse #	Irated (A)	U (V)	P (W)	I (mA)	Ifuse (mA)	condition/status
-	-	90	21.09	239	239	DC In:19.28V, 923mA
-	Adaptor:1.5	100	21.07	216	216	DC In:19.28V, 923mA
-	Adaptor:1.5	240	23.01	121	121	DC In:19.28V, 923mA
	-	254	23.07	113	113	DC In:19.28V, 923mA
-	-	264	23.19	117	117	DC In:19.28V, 923mA
-	-	90	21.06	238	238	DC In:19.28V, 928mA
-	Adaptor:1.5	100	21.10	215	215	DC In:19.28V, 928mA
-	Adaptor:1.5	240	22.99	122	122	DC In:19.28V, 928mA
	-	254	23.12	119	119	DC In:19.28V, 928mA
-	-	264	23.04	117	117	DC In:19.28V, 928mA
U(V) : Input Voltage of AC/DC Adaptor						

Normal operation (at 50Hz)

Normal operation (at 60Hz)

IEC 60 950			
Clause	Requirement – Test	Result	Verdict

2.10.3 and 2.10.4	TABLE: clearance and creepage distance measurements					N
clearance cl and creepage distance dcr at/of:	Up (V)	U r.m.s. (V)	required cl (mm)	cl (mm)	required dcr (mm)	dcr (mm)

2.10.5	TABLE: distance through insulation measurements				N
distance through insulation di at/of:	Up (V)	test voltage (V)	required di (mm)	di (mm)	

4.5	TABLE: maximum temperatures					P
	test voltage (V) .....:	90V, 50Hz	90V, 60Hz	264V, 50Hz	264V, 60Hz	—
	t_{amb1} (°C) .....:	-	-			—
	t_{amb2} (°C) .....:	23.7°C	24.2°C	23.2°C	24.5°C	—

maximum temperature T of part/at::	Calculated temperature at Tma (°C)				allowed T_{max} (°C)
Switching Adapter;					
1. Appliance inlet	54.1	53.5	61.5	60.6	85
2. X-Capacitor C001	60.0	59.4	68.8	67.8	-
3. Line Filter L001	64.0	63.5	72.8	71.8	95
4. Line Filter L002	66.2	65.6	77.0	75.9	120
5. PFC Choke L010	66.4	65.9	80.3	79.3	120
6. Electrolytic Capacitor C002	66.4	65.9	79.4	78.4	85
7. Transformer T050 Coil	72.0	71.6	86.0	85.0	105(E)
8. Transformer T050 Core	71.3	70.9	84.7	83.6	105(E)
9. Electrolytic Capacitor C204	65.1	64.9	75.9	74.9	105
10. Heatsink for primary	63.2	62.8	74.1	73.3	-
11. Heatsink for secondary	63.9	63.3	57.9	79.4	-
12. Output Cable	57.0	56.7	53.4	63.5	80
13. Enclosure of Adaptor	53.3	52.4	54.5	58.9	70
Others;					
14. Lithium battery BAT1 on VIA main board	56.0	56.0	55.0	56.3	-
15. U32 Body on VIA main board	60.2	60.3	61.8	60.6	-

IEC 60 950			
Clause	Requirement – Test	Result	Verdict

maximum temperature T of part/at::	Calculated temperature at Tma (°C)				allowed T_{max} (°C)
16. Heatsink for CLE266 on VIA main board	56.5	56.5	57.9	56.9	-
17. CPU FAN on VIA main board	52.0	52.1	53.4	52.5	100(A)
18. Inductor L32 on VIA main board	53.4	53.2	54.5	53.6	95
19. Inductor L39 on VIA main board	53.9	53.6	55.0	54.0	95
20. Electrolytic Capacitor C52 on VIA main board	54.5	54.5	55.9	54.9	85
21. Inductor L1 on DC-DC Connection upper board	57.2	57.2	58.7	57.5	95
22. Inductor L2 on DC-DC Connection upper board	62.5	62.4	64.0	62.8	95
23. Inductor L4 on DC-DC Connection lower board	70.9	70.9	72.5	71.3	95
24. Inductor L5 on DC-DC Connection lower board	62.6	62.7	64.0	62.9	95
25. Electrolytic Capacitor C5 on DC-DC Connection lower board	62.0	61.9	63.3	62.1	85
26. Switch on DC-DC Connection upper board	52.8	52.8	54.2	63.1	-
27. IC U1 on WIB board	63.0	62.7	64.3	63.0	-
28. Enclosure	45.9	45.8	46.7	46.3	70
Supplementary information : Tma: 40°C					

4.5.2	TABLE: ball pressure test of thermoplastic parts		N
	allowed impression diameter (mm) ..... :	≤ 2 mm	—

part	test temperature (°C)	impression diameter (mm)

4.7	TABLE: resistance to fire				N
part	manufacturer of material	type of material	thickness (mm)	flammability class	

5.2	TABLE: electric strength tests, impulse tests and voltage surge tests	P

test voltage applied between:	test voltage (V) a.c. / d.c.	breakdown Yes / No
Primary of AC adaptor – Chassis	4240 Vdc	No
supplementary information		

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Clause	Requirement – Test	Result	Verdict

5.3	TABLE: fault condition tests		P
	ambient temperature (°C) ..... :	22-27	—
	model/type of power supply ..... :	AC adaptor: PA-1900-08GR	—
	manufacturer of power supply ..... :	AC adaptor: Lite-On Technology Corporation	—
	rated markings of power supply ..... :	Input:100-240Vac, 50-60Hz, 1.5A	—

component No.	fault	test voltage (V)	test time	fuse No.	fuse current (A)	result
D17(pin1-2) on VIA main board	Shorted	254	10min	-	-	Input current of battery cuircuit: 3.28mA, No hazard.
D17(pin1-3) VIA main board	Shorted	254	10min	-	-	Input current of battery cuircuit: 0.4uA, No hazard.
D17(pin2-3) VIA main board	Shorted	254	10min	-	-	Input current of battery cuircuit: 3.01mA, No hazard.
CPU Fan	Locked	254	7hr	-	-	T050 in adaptor=68.2℃, L1 on DC-DC Connection lower board=79.6℃, CPU Fan on VIA main board= 51.2℃, Ambient=23.3℃, No hazard.
Ventilation	Closed	254	2hr	-	-	T050 in adaptor=68.4℃, L1 on DC-DC Connection lower board=80.2℃, Ambient=22.8℃, No hazard.

supplementary information :
Note : Test voltage is input voltage of AC adaptor

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
APPENDIX	National Differences of Australian according to CB Bulletin No. 107A, May 2004 (AS/NZS 60950.1:2003) (IEC Publication 60950-1:2001)		-
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
Annex ZZ	Variations to IEC 60950-1:2001 for application in Australia and New Zealand		
1.2	Between the definitions for "Person, service" and "Range, rated frequency" insert the following: Potential ignition source 1.2.12.201		N
1.2.12.15	After the definition of 1.2.12.15, add the following: 1.2.12.201 Potential ignition source: Possible fault which can start a fire if the open-circuit voltage measured across an interruption or faulty contact exceeds a value of 50 V (peak) a.c. or d.c. and the product of the peak value of this voltage and the measured r.m.s. current under normal operating conditions exceeds 15 VA. Such a faulty contact or interruption in an electrical connection includes those which may occur in conductive patterns on printed boards. NOTE 201: An electronic protection circuit may be used to prevent such a fault from becoming a potential ignition source. NOTE 202: This definition is from AS/NZS 60065:2003.		N
1.5.1	Add the following to the end of first paragraph: "or the relevant Australian/New Zealand Standard."	Added.	P
1.5.2	Add the following to the end of first and third dash items: "or the relevant Australian/New Zealand Standard."	Added.	P
2.1	Delete the Note.		N
3.2.3	Delete Note 2.		N
3.2.5.1	Modify Table 3B as follows:		N

Rated current of equipment A	Nominal cross-sectional area mm^2	AWG or kcmil (cross-sectional area in mm^2) see note 2
Over 0.2 up to and including 3	0.5[1)]	18 [0.8]
Over 3 up to and including 7.5	0.75	16 [1.3]

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Clause	Requirement – Test	Result	Verdict

	Over 7.5 up to and including 10	(0.75)[2] 1.00	16 [1.3]		
	Over 10 up to and including 16	(1.0)[3] 1.5	14 [2]		
	Replace footnote 1) with the following: [1] This nominal cross-sectional area is only allowed for Class II appliances if the length of the power supply cord, measured between the point where the cord, or cord guard, enters the appliances, and the entry to the plug does not exceed 2 m (0.5 mm² three-core supply flexible cords are not permitted; see AS/NZS 3191). Delete Note 1.				
4.3.6	Replace paragraph three with: Equipment with a plug portion, suitable for insertion into a 10 A 3-pin flat-pin socket-outlet complying with AS/NZS 3112, shall comply with the requirements in AS/NZS 3112 for equipment with integral pins for insertion into socket-outlets.				N
4.3.13.5	Add the following to the end of the first paragraph: ", or AS/NZS 2211.1"				N
4.7	Add the following paragraph: For alternative tests refer to clause 4.7.201.				N
4.7.201	Add the following after clause 4.7.3.6: 4.7.201 Resistance to fire - Alternative tests				N
4.7.201.1	General Parts of non-metallic material shall be resistant to ignition and spread of fire. This requirement does not apply to decorative trims, knobs and other parts unlikely to be ignited or to propagate flames originating from inside the apparatus, or the following: (a) Components that are contained in an enclosure having a flammability category of FV-0 according to AS/NSZ 4695.707 and having openings only for the connecting wires filling the openings completely, and for the ventilation not exceeding 1 mm in width regardless of the length. (b) The following parts which would contribute negligible fuel to a fire: - small mechanical parts, the mass of which does not exceed 4 g, such as mounting parts, gears, cams, belts and bearings;				N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
	- small electrical components, such as capacitors with a volume not exceeding 1750 mm^3, integrated circuits, transistors and optocoupler packages, if these components are mounted on material flammability category FV-1 or better according to AS/NZS 4695.707 NOTE – In considering how to minimize propagation of fire and what "small parts" are, account should be taken of the cumulative effect of small parts adjacent to each other for the possible effect of propagating fire from one part to another. Compliance is checked by tests of 4.7.201.2, 4.7.201.3, 4.7.201.4 and 4.7.201.5. For the base materials of printed boards, compliance is checked by the test of 4.7.201.5. The tests shall be carried out on parts of non-metallic material, which have been removed from the apparatus. When the glow-wire test is carried out, the parts shall be placed in the same orientation, as they would be in normal use. These tests are not carried out on internal wiring.		
4.7.201.2	Parts of non-metallic material are subjected to glow wire test of AS/NZS 4695.2.11, which is carried out at 550 °C. Parts for which the glow-wire test cannot be carried out, such as those made of soft or foamy material, shall meet the requirements specified in ISO 9772 for category FH-3 material. The glow-wire test shall be not carried out on parts of materials classified at least FH-3 according to ISO 9772 provided that the sample was not thicker than the relevant part.		N
4.7.201.3	Testing of insulating materials Parts of insulating materials supporting potential ignition sources shall be subject to the glow-wire test of AN/NZS 4695.2.11, which is carried out at 750 °C. The test shall be also carried out on other parts of insulating material which are within a distance of 3 mm of the connection. NOTE – Contacts in components such as switch contacts are considered to be connections. For parts, which withstand the glow-wire test but produce a flame, other parts above the connection within the envelope of a vertical cylinder having a diameter of 20 mm and a height of 50 mm shall be subjected to the needle-flame		N

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Clause	Requirement – Test	Result	Verdict
	test. However, parts shielded by a barrier which meets the needle-flame test shall not be tested. The needle-flame test shall be made in accordance with AS/NZS 4695.2.2 with the following modifications: **5 Severities** Replace with: The duration of application of the test flame shall be 30 s ± 1 s. **8 Test procedure** 8.2 Modification: Replace the first sentence with: The specimen shall be arranged so that the flame can be applied to a vertical or horizontal edge as shown in the examples of figure 1. 8.4 Modification: The first paragraph does not apply. Addition: If possible, the flame shall be applied at least 10 mm from a corner. 8.5 Replacement: The test shall be made on one specimen. If the specimen does not withstand the test, the test may be repeated on two further specimens, both of which shall then withstand the test. **10 Evaluation of test results** Replace with: The duration of burning (t_b) shall not exceed 30 s. However, for printed circuit boards, it shall not exceed 15 s. The needle-flame test shall not be carried out on parts of material classified as V-0 or V-1 according to IEC 60695-11-10, provided that the sample tested was not thicker than the relevant part.		

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Clause	Requirement – Test	Result	Verdict
4.7.201.4	Testing in the event of non-extinguishing material If parts, other than enclosures, do not withstand the glow-wire tests of 4.7.201.3, by failure to extinguish within 30 s after the removal of the glow-wire tip, the needle-flame test detailed in 4.7.201.3 is made on all parts of non-metallic material which are within a distance of 50 mm or which are likely to be impinged upon by flame during the tests of 4.7.201.3. Parts shielded by a separate barrier which meets the needle-flame test need not to be tested. NOTE 1 – If the enclosure does not withstand the glow-wire test the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 2 – If other parts do not withstand the glow-wire test due to ignition of the tissue paper and if this indicates that burring or glowing particles can fall onto an external surface underneath the equipment, the equipment is considered to have failed to meet the requirement of clause 4.7.201 without the need for consequential testing. NOTE 3 – Parts likely to be impinged upon by the flame are considered to be those within the envelope of a vertical cylinder having a radius of 10 mm and a height equal to the height of the flame, positioned above the point of the material supporting in contact with or in close proximity to connections.		N
4.7.201.5	Testing of printed boards The base material of printed boards is subjected to needle-flame test to Clause 4.7.201.3. The flame is applied to the edge of the board where the heat sink effect is lowest when the board is positioned as in normal use. The flame shall not be applied to an edge, consisting of broken perforations, unless the edge is less than 3 mm for a potential ignition source. The test is not carried out if the – - Printed board does not carry any potential ignition source; - Base material of printed boards, on which the available apparent power at a connection exceeds 15 VA operating at a voltage exceeding 50 V and equal or less than 400 V (peak) a.c. or d.c. under normal operating conditions, is of flammability category FV-1 or better according to AS/NZS 4695.707, or the printed boards are protected by an enclosure		N

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Clause	Requirement – Test	Result	Verdict
	meeting the flammability category FV-0 according to AS/NZS 4695.707, or made of metal, having openings only for connecting wires which fill the opening completely, or - Base material of printed boards, on which the available apparatus power at a connection exceeds 15 VA operating at a voltage exceeding 400 V (peak) a.c. or d.c. under normal operating conditions, and base material printed boards supporting spark gaps which provide protection against overvoltages, is of flammability category FV-0 according to AS/NSZ 4695.707 or the printed boards are contained in a metal enclosure, having openings only for connecting wires fill the openings completely. Compliance is determined using the smallest thickness of the material. NOTE – Available apparent power is the maximum apparent power, which can be drawn from the supplying circuit through a resistive load whose value is chosen to maximise the apparent power for more than 2 min when the circuit supplied is disconnected.		
6.2.2	Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), compliance with 6.2.2 is checked by the tests of both 6.2.2.1 and 6.2.2.2. Delete the note.		N
6.2.2.1	Delete Note 2. Add the following after the first paragraph: In Australia (this variation does not apply in New Zealand), the electrical separation is subjected to 10 impulses of alternating polarity, using the impulse test generator of annex N for 10/700 μs impulses. The interval between successive impulses is 60 s and the initial voltage, Uc, is: - for 6.2.1 a): 7.0 kV for hand-held telephones and for headsets and 2.5 kV for other equipment; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 – The 7 kV impulse simulates lightning surges on typical rural and semi-rural network lines. NOTE 202 – The 2.5 kV impulse for 6.2.1a) was chosen to ensure adequacy of the insulation		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
	concerned and does not necessarily simulate likely overvoltages.		
6.2.2.2	Delete the note. Add the following after the second paragraph: In Australia (this variation does not apply in New Zealand), the a.c. test voltage is: - for 6.2.1a): 3 kV; and - for 6.2.1b) and 6.2.1c): 1.5 kV. NOTE 201 – Where there are capacitors across the insulation under test, it is recommended that d.c. test voltages are used. NOTE 202 – The 3 kV and 1.5 kV values have been determined considering the low frequency induced voltages from the power supply distribution system.		N
Annex P	Add the following Normative References to Annex P: IEC 60065, Audio, Video and similar electronic apparatus – Safety requirements AS/NZS 3191, Approval and test specification – Electric flexible cords AS/NZS 3112, Approval and test specification – Plugs and socket-outlets AS/NZS 4695.707, Fire hazard testing of electrotechnical products – Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source		N
Indix	Between the entries for ”polymide insulating material” and ”powder” insert the following: Potential ignition source 1.12.201, 4.7.201.3, 4.7.201.5		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
APPENDIX	National Differences of China according to CB Bulletin No. 105A, May 2003 IEC Publication 950, 3rd Edition (1999)		-
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1	Supply tolerance Item 1.4.5 of IEC60950 stipulates the tolerance of rated voltage is +6% and –10%, while GB4943-2001 makes a specification of tolerance of +10% and –10%.	Class III equipment	N
2	Power rating marking Item 1.7.1 of IEC60950 does not specify concrete figures of markings for supply voltage and frequency, instead, descriptions are given by examples. But the examples do not include China's mains voltage. GB4943-2001 stipulates that: • A single rated voltage shall be expressed as 220V • When a rated voltage range is given, the range shall cover 220V • When a variety of rated voltages or rated voltage ranges are given, one of them shall be 220V, and shall be set as 220V when dispatched from the factory • Rated frequency or rated frequency range shall be 50Hz or include 50Hz • If a unit is not provided with a means for direct connection to the AC mains supply, it need not be marked with any electrical rating		N
3	Plate and warning marking in Chinese Item 1.7.12 of GB4943-2001 stipulates: instructions and equipment markings related to safety shall be in standardized Chinese.	Chinese safety instruction manual should be provided with equipment before marketing in China.	N
4	Power supply plug According to China's particular standards for power supply plug, it is added in article 3.2.1 of GB4943-2001 that plug connecting equipment with AC mains supply shall be in accordance with requirements of GB1002		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
APPENDIX	National Differences of Japan according to CB Bulletin No. 105A, May 2003 IEC Publication 950, 3rd Edition (1999)		-
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.2	**1.2 Addition:** Add the following terms. Equipment, Class 0I 1.2.4.101 Material, VTM 1.2.12.101	Added.	N
1.2.4.101	**Addition:** CLASS 0I EQUIPMENT: Equipment where protection against electric shock is achieved by: a) using BASIC INSULATION, and b) providing a means of connecting to the protective earthing conductor in the building wiring those conductive parts that are otherwise capable of assuming HAZARDOUS VOLTAGES if the BASIC INSULATION fails, and c) using a supply cord without earthing conductor and a plug without earthing wire although the equipment has externally an earth terminal or a lead wire for earthing. Equipment provided with a cord set having a two-pin type plug with a lead wire for earthing is also regarded as Class 0I. NOTE – Class 0I equipment may have a part constructed with Double Insulation or Reinforced Insulation as well as an operating part as SELV circuit.	Added.	N
1.2.12.1	**Replacement:** FLAMMABILITY CLASSIFICATION OF MATERIALS: The recognition of the burning behaviour of materials and their ability to extinguish if ignited. Materials are classified as in 1.2.12.2 to 1.2.12.9, and 1.2.12.101 when tested in accordance with annex A. NOTE 1 - When applying the requirements in this standard, HF-1 CLASS FOAMED MATERIALS are regarded as better than those of CLASS HF-2, anReplaced.d HF-2 better than HBF. NOTE 2 - Similarly, other MATERIALS, including rigid (engineering structural) foam of CLASSES 5V or V-0 are regarded as better than those of CLASS V-1, V-1 better than V-2, and V-2 better than HB. NOTE 3 - Similarly, for thin MATERIALS, VTM-0 Class materials are regarded as better than those of VTM-1 Class , and VTM-1 better than VTM-2.	Replaced.	N
1.2.12.101	**Addition:** VTM CLASS MATERIAL: Thin MATERIALS fulfil the specified conditions during the test of clause A.101 applied for materials that the test and evaluation of clauses A.6 to A.10 is difficult to enforce. Materials are classified to three classifications as VTM-0, VTM-1 and VTM-2 according to the conditions after the removal of the test flame.	Added.	N

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Clause	Requirement – Test	Result	Verdict
1.7.101	**Addition:** Marking for CLASS 0I EQUIPMENT For CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the mains plug or the main body: “Provide an earthing connection” Moreover, for CLASS 0I EQUIPMENT, the following instruction shall be indicated on the visible place of the main body or written in the operating instructions: “Provide an earthing connection before the mains plug is connected to the mains. And, when disconnecting the earthing connection, be sure to disconnect after pulling out the mains plug from the mains.”	Added.	N
2.1.1.1	**Replacement:** Replace “IEC 60083” to “IEC 60083 or JIS C 8303” in 2.1.1.1 b).	Replaced.	N
2.6.3.1	**Addition:** Add the following after 1st paragraph. (OFF) IEC 60950, 3rd ed 183 This also applies to the conductor of lead wire for protective earthing of CLASS 0I EQUIPMENT	Added.	N
2.6.4.1	**Replacement:** Replace 2nd sentence in 1st paragraph. For CLASS I EQUIPMENT with a DETACHABLE POWER SUPPLY CORD, the earthing terminal in the appliance inlet is regarded as the main protective earthing terminal.	Replaced.	N
2.6.5.4	**Replacement:** Replace 1st sentence. Protective earthing connections of CLASS I EQUIPMENT shall make earlier and break later than the supply connections in each of the following:	Replaced.	N
2.6.101	**Addition:** Earthing of CLASS 0I EQUIPMENT Plugs with a lead wire for earthing shall not be used for equipment having a rated voltage exceeding 150V. For plugs with a lead wire for earthing, the lead wire shall not be earthed by a clip. CLASS 0I EQUIPMENT shall be provided with an earthing terminal or lead wire for earthing in the external where easily visible.	Added.	N
3.2.5	Delete 1) in Table 3B.	Deleted.	N
4.2.8	**Addition:** Add the following informative remark after the last sentence. Remark - IEC 61965 is also applicable instead of IEC 60065.	Added.	N

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Clause	Requirement – Test	Result	Verdict
4.5.1	**Addition:** Add the following to suffix 5) as specified in "Conditions applicable to Table 4A, Parts 1 and 2". With regard to Table 4A, insulating materials complying with Japanese requirements (refer to Japanese differences for the current IEC 60335-1 (3rd Edition) in CB Bulletin 101B) are also acceptable. Add a suffix 7) in "Conditions applicable to Table 4A, Parts 1 and 2". In the right column of Table 4A, Part 1, add suffix 7) to "50" (K), corresponding to "- without T – marking" in the left column so as to become "50 7)". Add 7) to Table 4A, Part 2 as follows. 7) This value shall apply only to wiring or cords complying with relevant IEC standards. Others shall comply with Japanese requirements (refer to Japanese differences for the current IEC 60335-1 (3rd Edition) in CB Bulletin 101B).	Added.	P
4.7.3.2	**Addition:** Add the following in 7th paragraph. **-** for thin materials, e.g., flexible printed boards, etc., used inside equipment, be of FLAMMABILITY CLASS VTM-2 or better.	Metal enclosure	N
5.1.6	**Replacement:** Replace Table 5A. (OFF) IEC 60950, 3rd ed 184 Table 5A: Ref. CB Bulletin	Replaced.	N
5.3.8.2	**Replacement:** Replace 3rd Item as follows. - BASIC INSULATION between the PRIMARY CIRCUIT and accessible conductive parts of CLASS I or 0I EQUIPMENT;	Replaced.	N
Annex A	**Addition:** Add the subclause **A.101**with the title "Flammability tests for classifying materials VTM" and the following: Thin sheet materials shall comply with ISO 9773.	Added.	N
Annex G	**Addition:** Add the following to the Note for Table G.1. 2. In Japan, MAINS TRANSIENT VOLTAGE for equipment with a Nominal AC MAINS SUPPLY VOLTAGE of 100V is to be decided based on the column where Nominal AC MAINS SUPPLY VOLTAGE in Table G.1 is 150V.	Added.	N
Annex P	**Addition:** Add "IEC 61965:2000, Mechanical Safety for Cathode Ray Tubes".	Added.	N
Annex U	**Replacement:** Replace 2nd paragraph. This annex covers to round winding wires having diameters between 0.05 mm and 5.00 mm.	Replaced.	N

<table>
<tr><td colspan="4">IEC 60 950</td></tr>
<tr><td>Clause</td><td>Requirement – Test</td><td>Result</td><td>Verdict</td></tr>
<tr><td>U.2.1</td><td>Replacement:
Electric strength
The test sample is prepared according to IEC 60851-5:1997, 4.4.1 (for a twisted pair). The sample is then subjected to
the test of 5.2.2 of this standard, with a test voltage not less than twice the appropriate voltage in table 5B (see 5.2.2) of
this standard. However, the minimum values shall be as follows:
- for BASIC INSULATION or SUPPLEMENTARY INSULATION, 3000 V, or;
- for REINFORCED INSULATION, 6000 V.</td><td>Replaced.</td><td>N</td></tr>
<tr><td>U.2.2</td><td>Replacement:
Flexibility and adherence
Test 8 of IEC 60851-3:1996, 5.1.1, using the mandrel diameters of table U.1. The test sample is then examined in accordance with IEC 60851-3:1996, 5.1.1.4, followed by the test of 5.2.2 of this standard except applying the test voltage between the wire and the mandrel. A test voltage shall not be less than twice the appropriate voltage in table 5B (see 5.2.2) of this standard. However, the minimum values shall be as follows:
- for BASIC INSULATION or SUPPLEMENTARY INSULATION, 1500 V, or;
- for REINFORCED INSULATION, 3000 V.</td><td>Replaced.</td><td>N</td></tr>
<tr><td>Table U.1</td><td>Replacement:
Mandrel diameter
<table><tr><td>Nominal Conductor diameter mm</td><td>Mandrel diameter mm ± 0,2 mm</td></tr><tr><td>0,05 – 0,34
0.35 – 0,49
0,50 – 0,74
0,75 – 2,49
2,50 – 5,00</td><td>4,0
6,0
8,0
10,0
4 times of the diameter of conductor 1)</td></tr><tr><td colspan="2">1) in compliance with IEC 60317-43.</td></tr></table>The tension to be applied to the wire during winding on the mandrel is calculated from the wire diameter to be equivalent
to 118 Mpa ± 10 % (118 N/mm2 ± 10 %).</td><td>Replaced.</td><td>N</td></tr>
</table>

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
APPENDIX	National Differences of Korea according to CB Bulletin No. 107A, May 2004 (K60950) (IEC Publication 60950-1:2001)		-
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	Class III equipment	N
7	Addition: EMC The apparatus shall comply with the relevant CISPR standards.		N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
APPENDIX	National Differences of Singapore according to CB Bulletin No. 105A, May 2003 (SS 337:2001) IEC Publication 950, 3rd Edition (1999)		-
EXPLANATION FOR ABBREVIATIONS P=Pass, F=Fail, N=Not applicable. Placed in the column to the right.			
General	IT Power Systems are not allowed in the Republic of Singapore and all clauses related to IT Power Systems are not applicable		N
2.9.2	After the first paragraph, Insert the following: Under tropical conditions, the duration of the humidity conditioning is 5 days(120h) at temperature (t) of 40℃±2℃ with relative humidity of 90% to 95% Explanation: Conditions described in IEC Publications 60068-2-3:1969- 'Test Ca: Damp Heat, Steady State' (temperature: 40℃±2℃, relative humidity: 90% to 95%)apply to insulation to be used under tropical conditions. The additional requirement on humidity conditioning is drawn from Clause 10.2 of IEC 60065:1998	Class III eqipment	N
2.10.6.5	Delete '(48h)' Explanation: To be consistent with 2.9.2	Deleted.	N
3.2.8	Replace '23℃±2℃' by '27℃±2℃' Explanation: The recommended temperature for tropical countries is drawn form ISO 554:1976- 'Standard atmospheres for conditioning and/or testing - Specifications'	Replaced.	N

IEC 60 950			
Clause	Requirement – Test	Result	Verdict
1.2.8.6	After NOTE 2, insert the following: NOTE 3 - This definition for SELV CIRCUIT differs from the term 'SLV system' as given in SS CP 5. Attention is also drawn to the following: For a.c. power distribution systems, only TN-S and TT systems are allowed in the Republic of Singapore. Where the phrase 'this standard' appears, it should be read as 'Singapore Standard SS337'. The comma has been used throughout as a decimal marker in IEC 60950, whereas in Singapore standards it is a practice to use a full-point on the baseline as the decimal marker. The IEC standard referred to shall be replaced by Singapore Standards as follows: International Standard — Corresponding Singapore Standard IEC 60065 — SS143:2000 IEC 60227 — SS358	Inserted.	N

Remarks #1 : Photographs

<Fig. 1> Front View with Switching Adapter

<Fig. 2> Rear View

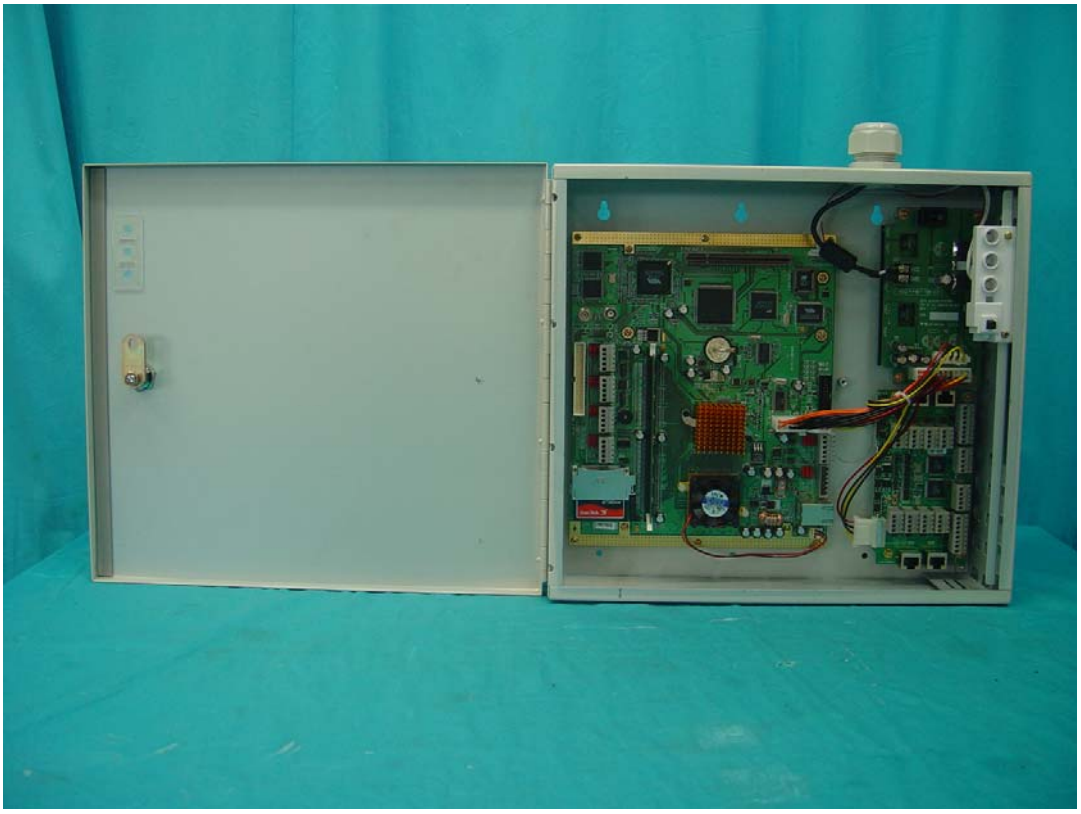
Remarks #1 : Photographs

<Fig. 3> Upper Side View

<Fig. 4> Lower Side View

Remarks #1 : Photographs

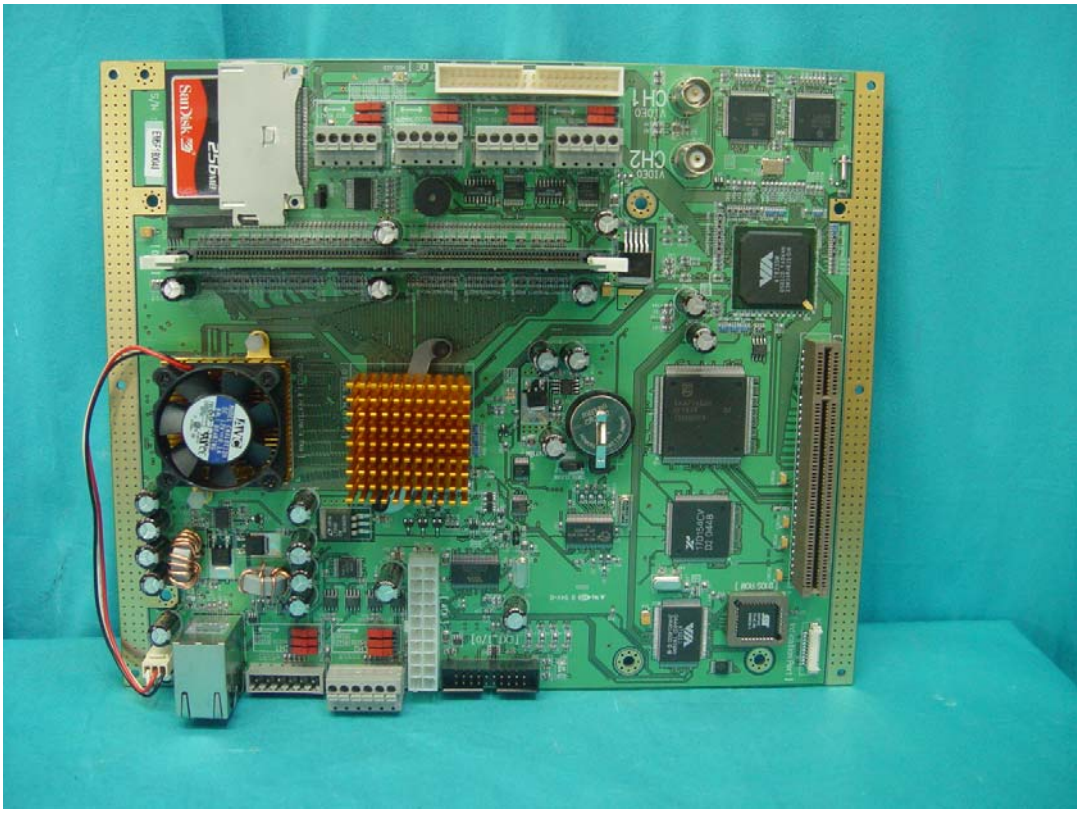
<Fig. 5> Inside View 1



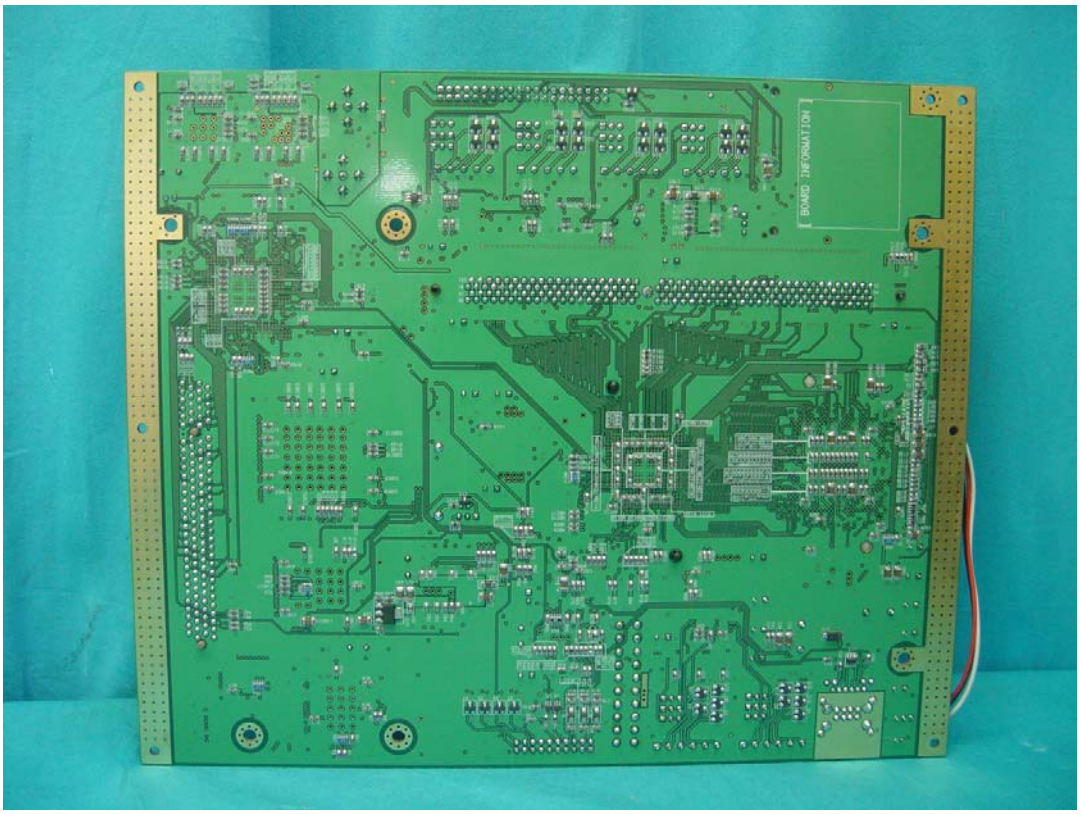
<Fig. 6> Inside View 2

Remarks #1 : Photographs

<Fig. 7> Components Side View of VIA main board

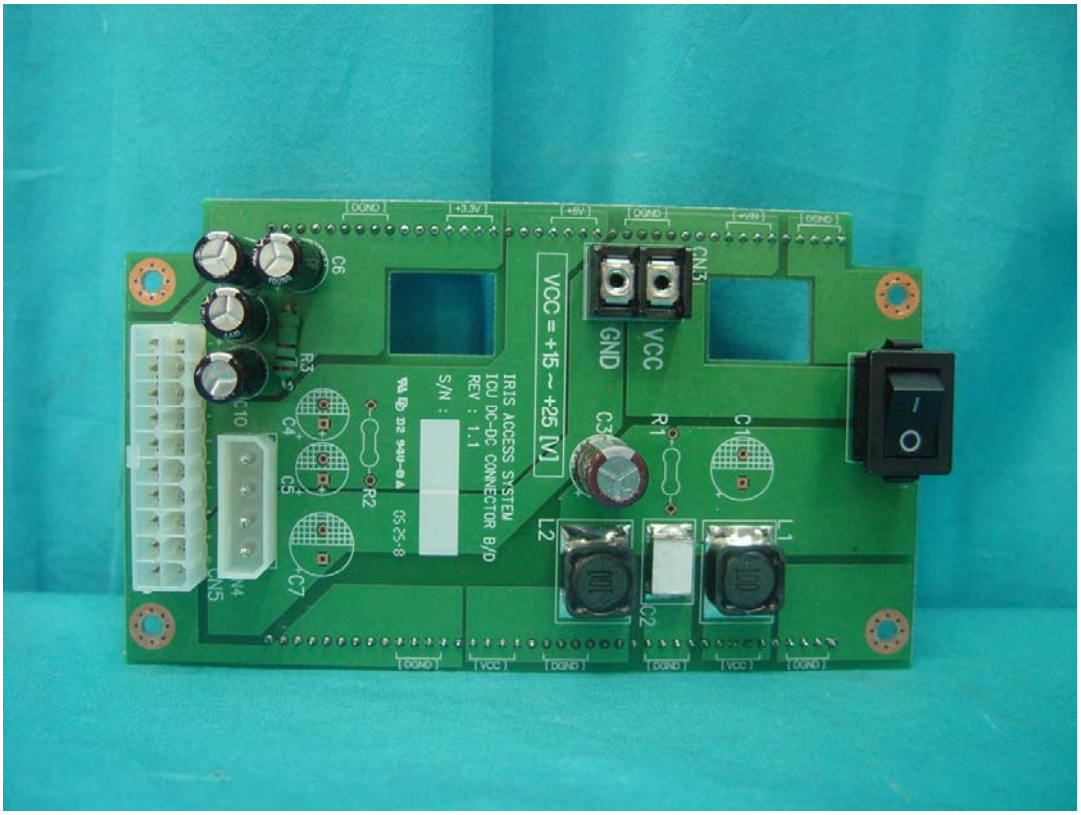


<Fig. 8> Soldering Side View of VIA main board

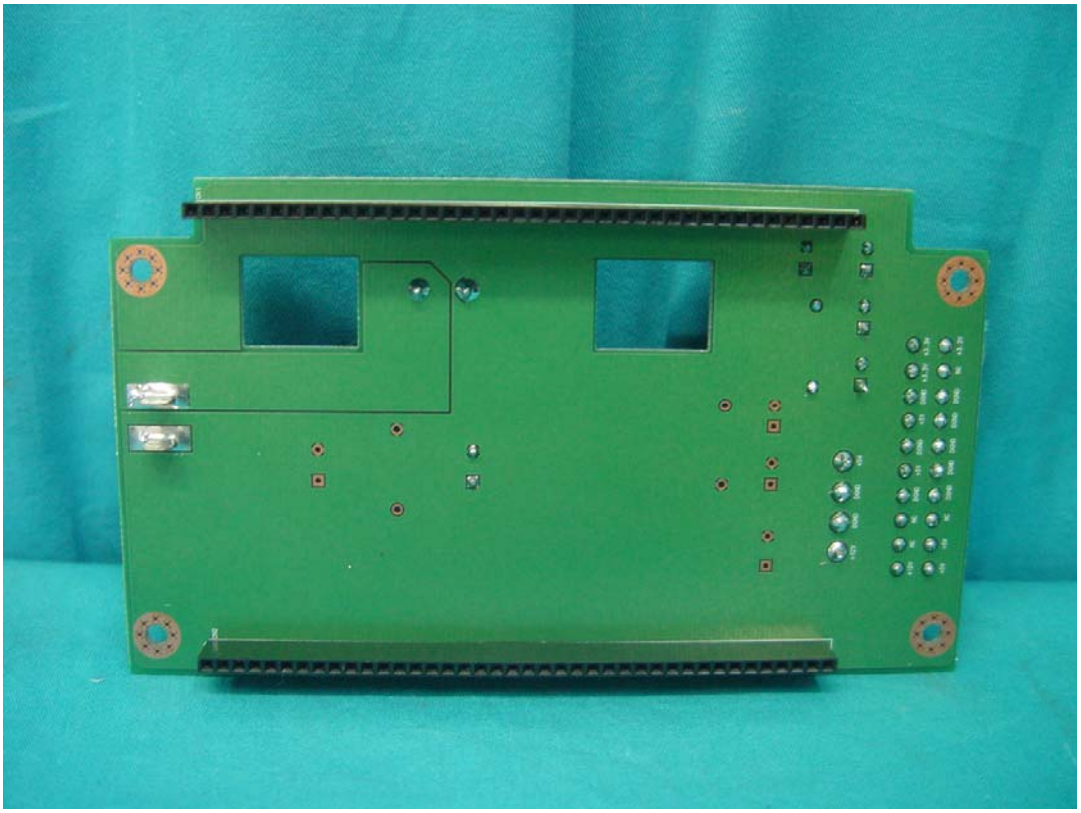


Remarks #1 : Photographs

<Fig. 9> > Components Side View of DC-DC Connection upper board

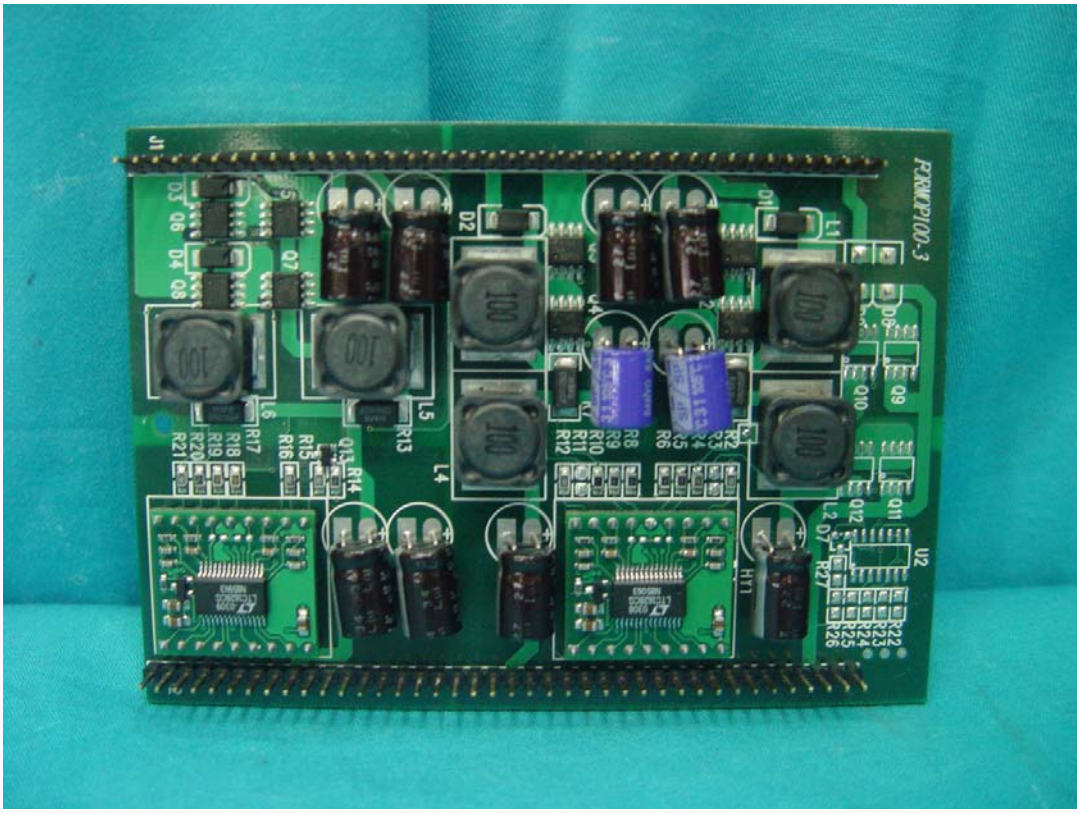


<Fig. 10> Soldering Side View of DC-DC Connection upper board

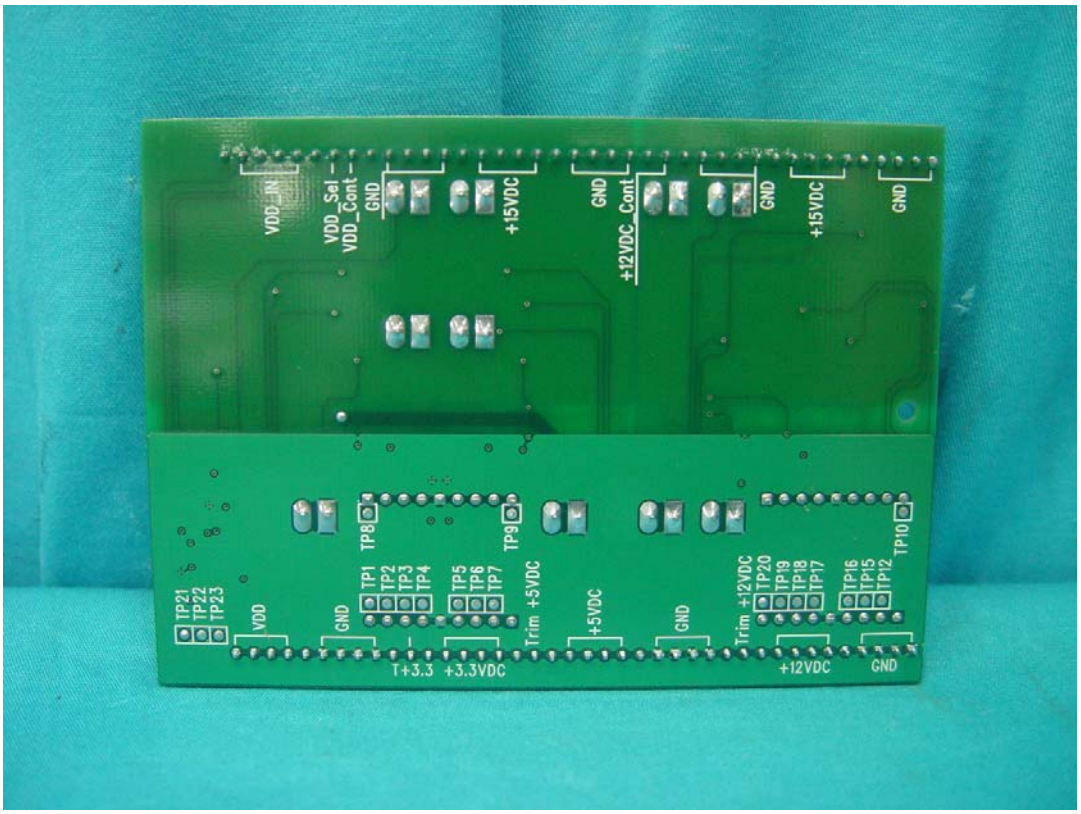


Remarks #1 : Photographs

<Fig. 11> Components Side View of DC-DC Connection lower board

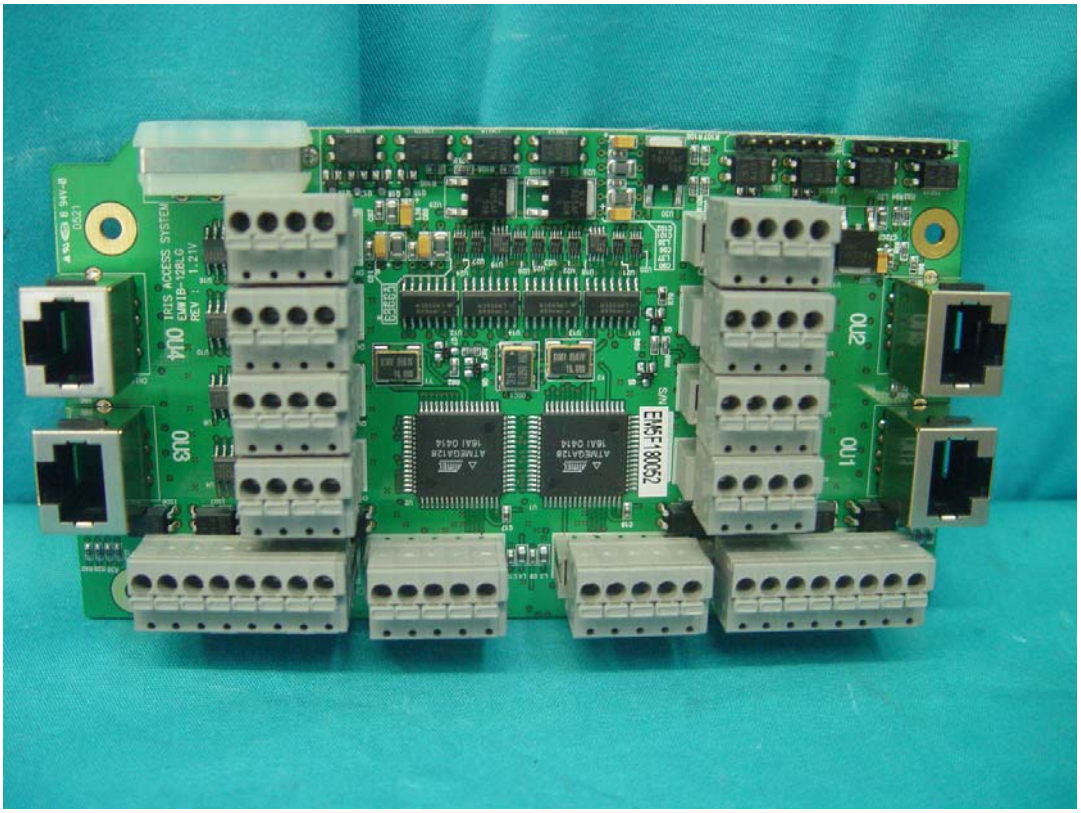


<Fig. 12> Soldering Side View of DC-DC Connection lower board

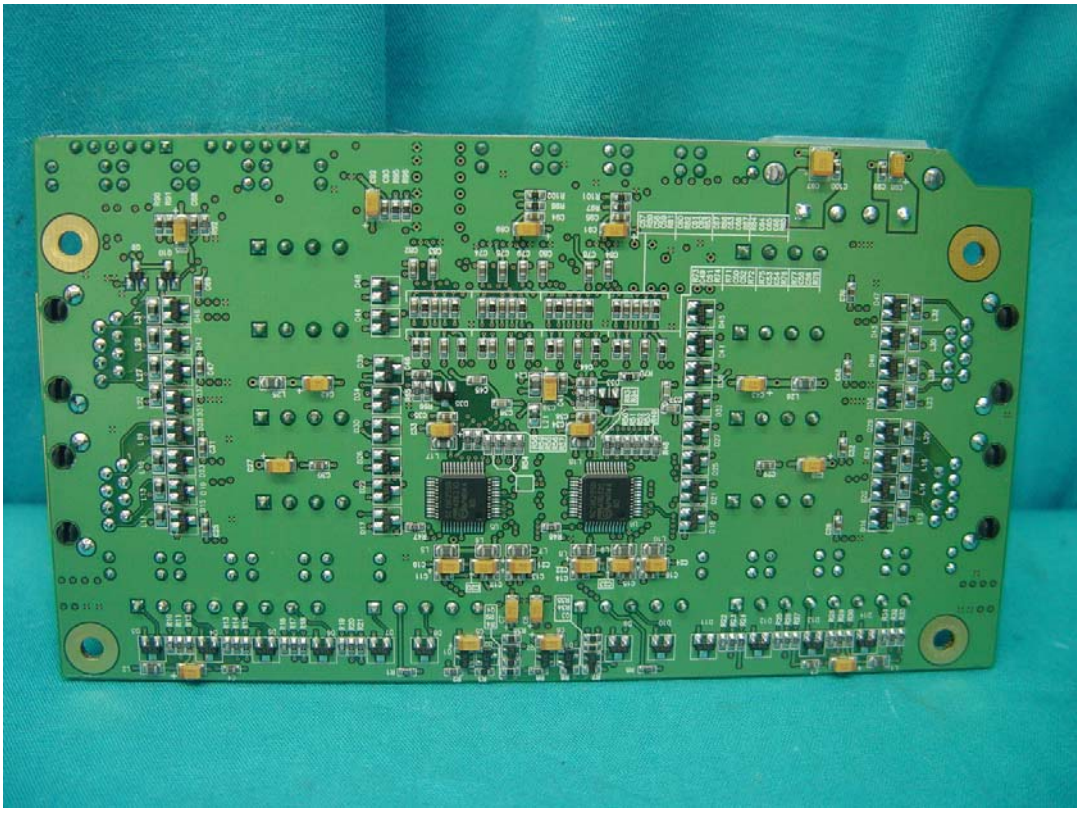


Remarks #1 : Photographs

<Fig. 13> Components Side View of WIB board



<Fig. 14> Soldering Side View of WIB board



Remarks #1 : Photographs

<Fig. 15> Side View of AC/DC Adaptor

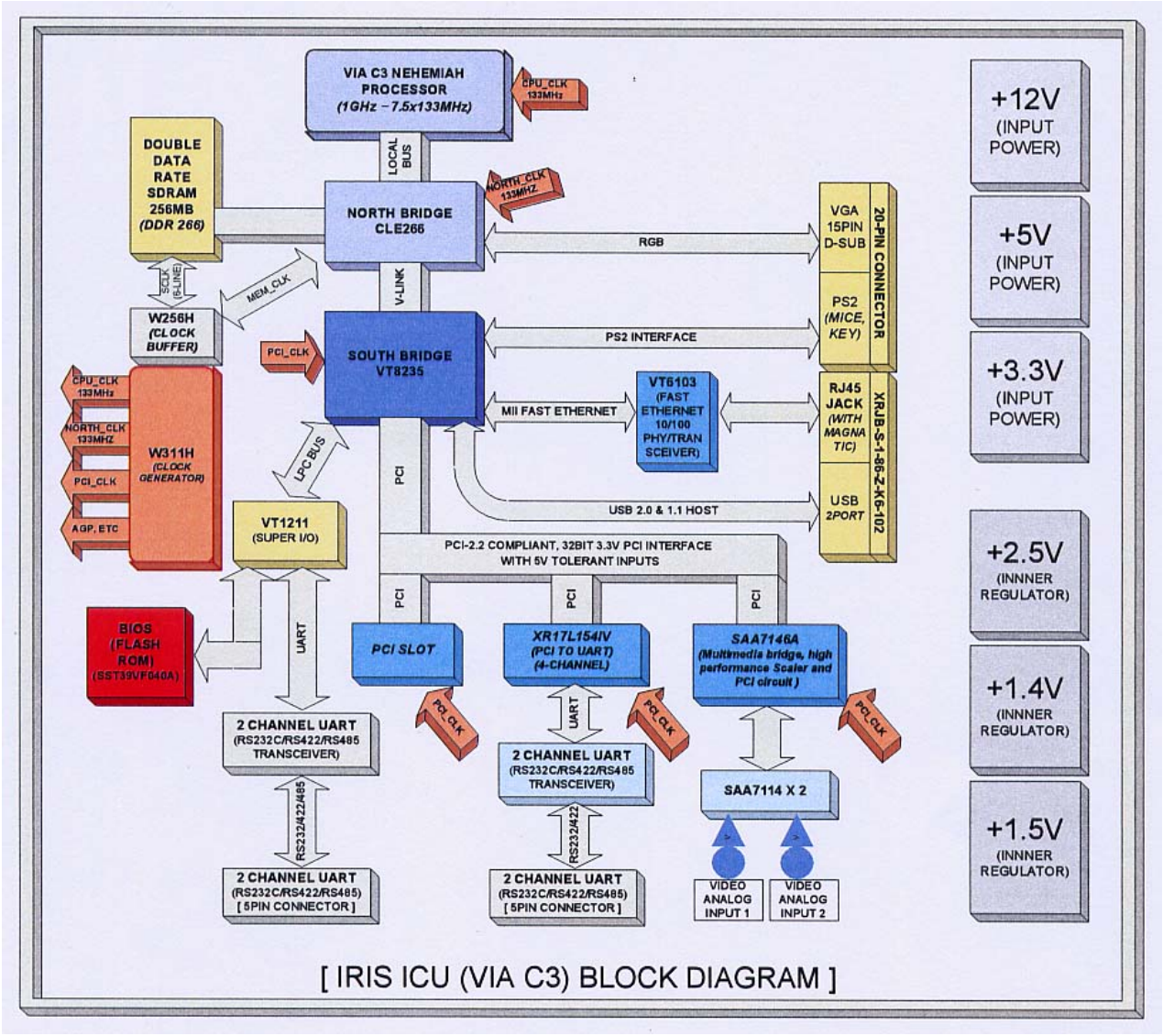
<Fig. 16> Front View of AC/DC Adaptor

Remarks #1 : Photographs

<Fig. 17> Label part of AC/DC Adaptor

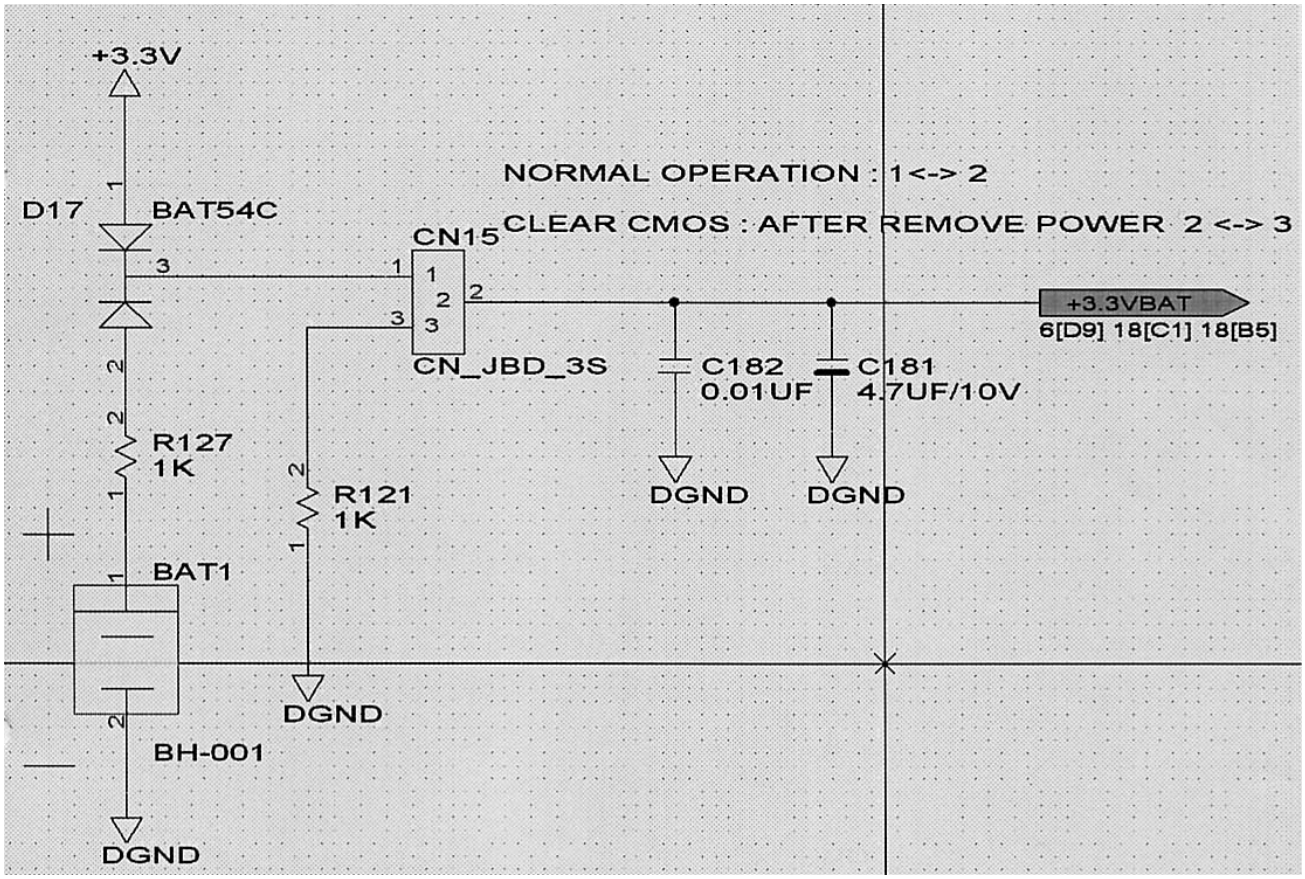
Remarks #2 : Circuit diagram

☐ Block diagram



Remarks #2 : Circuit diagram

☐ Circuit diagram of Battery parts in VIA main board



Remarks #3 : Certification of AC/DC Adaptor

□ (1/2)

INTERNATIONAL ELECTROTECHNICAL COMMISSION (IEC)
COMMISSION ELECTROTECHNIQUE INTERNATIONALE (CEI)

Ref. Certif. No.
NO 30405

IEC SYSTEM FOR CONFORMITY TESTING TO STANDARDS FOR SAFETY OF ELECTRICAL EQUIPMENT (IECEE)
CB SCHEME

SYSTEME CEI D'ESSAIS DE CONFORMITE AUX NORMES DE SECURITE DE L'EQUIPMENT ELECTRIQUE (IECEE)
METHODE OC

CB TEST CERTIFICATE
CERTIFICATE D'ESSAI OC

Product *Produit*	**AC Adapter**
Name and address of the applicant *Nom et adresse du demandeur*	**Lite-On Technology Corporation 90, Chien I Road, Chung Ho Taipei Hsien, 235 TAIWAN**
Name and address of the manufacturer *Nom et adresse du fabricant*	**Lite-On Technology Corporation 90, Chien I Road, Chung Ho Taipei Hsien, 235 TAIWAN**
Name and address of the factory *Nom et adresse de l'usine*	**Refer to own page**
Rating and principal characteristics *Valeurs nominales et caractéristiques principales*	**1.5A 100-240V 50-60Hz,. Cl. I, Adapter. DC-output: 4.74A +19V. The dots "." in model can be A to Z, 0 to 9 or blank, for marketing use only.**
Trade mark (if any) *Marque de fabrique (si elle existe)*	**BRAND NAME: LG**
Model/type Ref. *Ref. de type*	**PA-1900-08..**
Additional information (if necessary) *Information complémentaire (si necéssaire)*	**The dots "." in model name can be A to Z, 0 to 9 or blank, for marketing use only.**
A sample of the product was tested and found to be in conformity with *Un échantilléon de ce produit a été essayé et a été considéré conforme à la*	**IEC 60950-1 (ed.1)**
as shown in the Test Report Ref. No. which forms part of this certificate *comme indiqué dans le Rapport d'essais numéro de référance* *qui constitute un partie de ce certificat*	**29318**

This CB Test Certificate is issued by the National Certification Body
Ce Certificate d'essai OC est établi par l'Organisme National de Certification

Nemko
P.O. BOX 73, BLINDERN
N-0314 OSLO, NORWAY

Date **09 September 2004**

Signature **Bård Myrvollen**
Certification Department

Issue 1993-06 / N - version

Remarks #3 : Certification of AC/DC Adaptor

□ (2/2)

Nemko
www.nemko.com

29318

TEST REPORT

IEC 60950-1 and/or EN 60950-1, First Edition

Information technology equipment – Safety – Part 1: General requirements

Report reference No	29318
Tested by (printed name and signature)	Roger Liou
Approved by (printed name and signature)	Andy Lee
Date of issue	September 07, 2004
Testing Laboratory Name	**Nemko A/S** Phone: (+47) 22 96 03 30
Address	**P.O. Box 73 Blindern, N-0314 Oslo, Norway**
Testing location	CBTL ☒ CCATL ☐ SMT ☐ TMP ☐
Address	Same as above
Applicant's Name	Lite-On Technology Corporation
Address	90, Chien I Road, Chung Ho, Taipei Hsien, Taiwan 235
Test specification	
Standard	IEC 60950-1:2001 and/or EN 60950-1:2001, First Edition
Test procedure	CB/CCA –scheme
Non-standard test method	**N/A**
Test Report Form No.	IECEN60950_1B
TRF originator	SGS Fimko Ltd
Master TRF	dated 2003-03

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Test item description	AC Adapter
Trademark	Trade mark: LITEON Brad name: hp and LG
Manufacturer	Lite-On Technology Corporation 90, Chien I Road, Chung Ho, Taipei Hsien, Taiwan 235
Model and/or type reference	PA-1900-08.. for LITEON and LG Series PPP012L-S for hp
Serial number	Test sample without serial number
Rating(s)	I/P: 1.5A, 100-240V, 50-60Hz DC O/P: 4.74A/19V for LITEON and LG 4.74A/19V or 4.86A/18.5V for hp

N-TRF Rev 2004-03

This Test Report , when bearing the Nemko name and logo is only valid when issued by a Nemko laboratory, or by a laboratory having special agreement with Nemko.